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THE HUMAN AND ECONOMIC PROBLEM OF CHRONIC ARTHRITIS*

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HUMAN DOCUMENT NO. 1

A TALL, ptotic woman of 35, weighing less than 100 pounds. Lineaments of former beauty and happiness discernible. Present disfigurement and discouragement only too evident. A musician by nature; a mother and family drudge by marriage. Elbows, hands, knees and feet swollen and limited in motion. Chronic Atrophic (Rheumatoid) Arthritis of ten years' duration. No known cause other than worry and depression. All known or imagined foci of infection removed years ago. Treatment by anti-rheumatic medication and vaccines had been unavailing. Irrevocable changes in joint tissues. This was the picture presented when consultation was sought. Placed in a modern hospital with every facility for treatment. Fresh air, sunshine, laboratory study, physical therapy, interested medical and orthopedic attention lavished. Period of observation six months. Then return to family 1,000 miles away became financially necessary. *Result.* Gain of 20 pounds in weight. No new joints affected. Activity of disease controlled, arrest seems possible if favorable mental and physical regimen can be continued under medical observation in her own home. Letter nine months later. Regimen gradually relaxed. Perhaps insufficient help from busy husband, family cares, never leaves room on second story, no courage or facilities to keep up the fight. More joints involved, practically bedridden. Tired and worn out by mental and physical struggle. May well yet live to three-score years and (perhaps) ten, but with distressing labor and sorrow. Too late. Permanent loss of function, *serious;* permanent loss of morale, *more serious.*

HUMAN DOCUMENT NO. 2

Eminent lawyer of 70. Huge, overweight man, former athlete, knowing good food but temperate. Mentally alert, optimist by nature. Weighty matters to settle. Overwork. Constipation, high blood pressure. Many years of increasing disability in back, hips, knees, hands and feet, not taken seriously in an attempt to "bull it through". Rest and careful diet either not enjoined by physician or followed by patient. No hospitalization. This the picture presented when consultation was sought. Far advanced Hypertrophic Arthritis. Suggestions as to diet, loss of weight, relief of constipation only partially followed. Relief of back and lower extremity joints by apparatus. Course of vaccine treatment at request of patient's friends followed by no appreciable benefit, perhaps less constipation. Period of observation one year. *Result.* Increasing disability, onset of sciatica from nerve root pressure of bony overgrowths. Confinement to house, optimism waning. Cerebral hemorrhage, death. Early signs and symptoms not taken seriously because tolerable. Individual as a whole not considered or conserved, wastage of many years of usefulness.

I. PREVALENCE OF CHRONIC DISEASE

Chronic disease is a wastage. It is a challenge, if not a reproach to the medical profession, for it may be largely prevented. We quote from a previous article. An estimate by Louis I. Dublin, statistician for the Metropolitan Life Insurance Company, places the yearly cost of preventable diseases in the United States at nine billion dollars and the possibility of its control at 1/10 of this amount. As he says, there is no better investment available to any organized community than good, well-balanced public health service.

Richard Conant, Commissioner of Public Welfare in Massachusetts, has found that in the long run the greatest single cause of poverty is chronic illness. A recent survey by the State Department of Public Health has revealed the astounding fact that ten per cent. of the entire population of Massachusetts exhibit some form of chronic disease and that after 40 years of age, 25 per cent. have their efficiency lessened or are crippled by chronic disease.

II. INCIDENCE OF CHRONIC RHEUMATIC DISEASE AND ITS ECONOMIC IMPORTANCE

A house to house survey in two considerable urban and rural sections, and smaller check-ups throughout the state of Massachusetts have yielded a probably reliable estimate of the numerical importance of the four most prevalent forms of chronic disease. The state has a population of approximately four and a half millions.

There are roughly 10,000 cases of cancer.
There are roughly 25,000 cases of active tuberculosis.
There are roughly 80,000 cases of cardiovascular disease.
There are roughly 150,000 cases of so-called rheumatism.

Most of the persons suffering from the first three forms of chronic disease either recover or die fairly quickly. Most of the persons with

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chronic rheumatism at present neither recover quickly, nor die quickly.

The disease or diseases which we call chronic arthritis have affected animals and man for more than a million years. The fossil remains of the oldest known dinosaur make it certain that he suffered from cricks in his back before he became a fossil. The prehistoric Kansas man had the disease in his great toe joint. Sir Armand Ruffer has demonstrated the two types of the disease which we now recognize in the mummified spines of the predynastic Nubians and Egyptians perhaps 8,000 years old, and the bones of the American Indians before Columbus came, tell the same story. If you rear your families near the Equator or about the North or South Poles, they may escape the hereditary tendencies to chronic arthritis, but the disease is prevalent in all other zones and on all continents. It is gradually being recognized in Europe that the most important economic problem which chronic disease presents, is chronic rheumatism. In the British Isles alone, the rheumatic diseases caused one and a half million weeks of idleness in a single year and cost the relief agencies 10 millions of dollars. We need no more statistics to suggest the acuteness of this chronic problem. These statistics do not lie, nor have liars either gathered or arranged them.

III. METHODS OF ATTACK

A. Change of Concept of the Disease in the Minds of the Profession

We believe the first necessity is to persuade medical men of the truth and importance of the following statements:

1. *Chronic* disease is an acute problem.
2. The diseases included under the name of chronic rheumatism present a larger human and economic problem than any other group of chronic diseases.
3. The public is losing faith in the ability of the medical profession to solve this problem successfully and has turned to quacks and patent medicines with no better fortune.
4. Chronic arthritis usually represents a generalized disease with secondary joint manifestations as the Concept of the American Committee for the Control of Rheumatism states.
5. No single specific basic cause for these diseases has as yet been conclusively demonstrated.
6. By careful search there may usually be found several underlying important contributory causes often in association with different forms of bacterial infection. The bacterial infection may conceivably represent the *result* as well as the *cause* of the disease.
7. Any attack on the disease which does not take cognizance of, and modify the influence of the underlying contributory causes, will in many instances fail to arrest or cure the chronic arthritis.
8. An intelligent, patient, combined attack on easily recognizable prodromal and early cases will beget optimism rather than pessimism as to end results.
9. The medical profession should more generally inform itself of these methods of attack. This is not a geometrical theorem, but perhaps we may say, "quod erat demonstrandum".

B. Recognition by Profession and Laity of Two Different Types of Chronic Arthritis and Their Probable Cause

Terminology

The present literature of chronic arthritis is confusing because of the varied terminology employed by different authors in describing the different types. Virchow grouped them all together under the name of Arthritis Deformans. This has the great merit of simplicity, but the experience of every observant clinician dealing with large groups of arthritic patients and of every laboratory research worker suggests that we may do better than this, and subdivide chronic rheumatic arthritis, Virchow's Arthritis Deformans, at least once. We may clearly recognize two working types. The American Committee feels that for the moment we should stop there, using a terminology which will as simply and as accurately as possible indicate basic differences in the gross pathology of these two types. An etiologic classification would perhaps be still better, but with our present meager knowledge and doubt as to specific causes, such an etiologic classification would be so complex as to confuse rather than to clarify the conception of the disease in the minds of general practitioners, who must perforce represent the combat troops if the present campaign of control is to be won.

We shall speak of these two types as Atrophic Arthritis and Hypertrophic Arthritis, which is the terminology adopted by the American Committee. A table illustrating the most important attempts at classification with synonymous listings under the headings, Atrophic Arthritis and Hypertrophic Arthritis, and a brief summary of the main differences between these two types under the headings of Onset, etc., follow.

CHIEF CLASSIFICATIONS OF CHRONIC RHEUMATISM OR ARTHRITIS. ARRANGED UNDER HEADINGS OF ATROPHIC AND HYPERTROPHIC TYPES

Authors	Atrophic Type	Hypertrophic Type
Adams (1857)	Polyarticular type.	Monarticular type.
Charcot (1881)	Rapid evolution. Age incidence 16 to 30. Little new formation of bone.	Gradual evolution. Age incidence 40-60. Hyperostosis. Heberden's nodes. Malum coxae senilis.
Garrod (1890)	Rheumatoid arthritis: (*a*) Acute. (*b*) Chronic. Still's disease.	Osteo-arthritis.
Bannatyne (1896)	Rheumatoid arthritis: early.	Rheumatoid arthritis: late.
Goldthwait (1904)	(*a*) Infectious arthritis. (*b*) Atrophic arthritis.	Hypertrophic arthritis.
Nathan (1906)	(*a*) Acute infectious arthritis (inflammatory). (*b*) Insidious autotoxic arthritis (trophic).	Insidious progressive osteo-arthritis (trophic), senile arthritis, Heberden's nodes, malum coxae senilis. Tabes dorsalis, syringomelia, etc.
Pribram (1907)	(*a*) Chronic pseudo-rheumatism. (b) Chronic secondary articular rheumatism. (*c*) Rheumatoid arthritis.	Osteo-arthritis deformans.
Hoffa and Wollenberg (1908)	(*a*) Secondary chronic articular rheumatism. (*b*) Primary progressive polyarthritis. "Arthritis destruens."	Osteo-arthritis deformans.
Llewellyn Jones and other British authors (1908)	Rheumatoid arthritis: (*a*) Acute. (*b*) Subacute.	Osteo-arthritis.
Nichols and Richardson (1909)	Proliferating or ankylosing arthritis.	Degenerative or non-ankylosing arthritis.
Osler and McCrae	(*a*) Lesions principally in synovial membrane. (*b*) Atrophic changes in cartilage and bone.	Hypertrophy and overgrowth of bone.
Ely (1914)	Type I	Type II
	Primary proliferation of synovial membrane and marrow. Secondary atrophy of cartilage and bone.	Primary inflammation of synovial membrane and degeneration of synovial membrane and marrow. Secondary hypertrophy of bone and cartilage.
Fisher (1923)	Type II (Synovial)	Type I (Chondro-osseous)
	Primary synovial membrane invasion. Secondary cartilage and bone invasion.	Primary cartilage and bone invasion. Secondary synovial membrane invasion.
	Type III (Mixed)	
	Simultaneous invasion synovial membrane, cartilage, and bone.	
	Spondylitis Deformans	
	"Poker back." Spondylose rhizomélique. Strümpell-Marie type.	Osteo-arthritis. Hypertrophic arthritis, von Bechterew type.

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C. Recognition of Basic Etiologic Factors in Chronic Arthritis

We have spoken of important underlying causes. In our opinion, one or more of these will be found to be basic factors in the majority of patients suffering from both types of chronic rheumatic arthritis. We may catalogue the underlying causes common to both types as follows:

1. Heredity.
2. Disproportion of mental or physical load to carrying capacity of the individual: fatigue, worry.
3. Lowered resistance of the individual, from over or under physical or mental exercise, or from bacterial infections.
4. Faulty body mechanics.
5. Disturbances of circulation, vasomotor changes, loss of capillary control. Perhaps dysfunction of sympathetic nervous system.
6. Failure of the patient from ignorance or indulgence, to practice the art of living and the science of eating. Faulty alimentation, constipation or diarrhoea. Deficiency diets.

DIFFERENCES IN INCIDENCE, ONSET, SIGNS AND SYMPTOMS, ROENTGENOLOGIC APPEARANCES AND MORBID HISTOLOGY IN THE TWO MAIN TYPES OF CHRONIC ARTHRITIS DESIGNATED AS ATROPHIC ARTHRITIS AND HYPERTROPHIC ARTHRITIS

	Atrophic Arthritis	Hypertrophic Arthritis
Common synonymous terms used in other classifications	Still's disease; rheumatoid arthritis; proliferative or ankylosing; arthritis deformans; spondylitis; Marie-Strümpell syndrome.	Ostearthritis; degenerative or non-ankylosing arthritis; menopause arthritis; ostearthritis of the spine, von Bechterew syndrome.
Incidence:		
Age	From infancy to middle age.	From middle age till death.
Body type	More common in slender ptotic women.	More common in stocky, well-nourished men and women.
Onset	Acute to insidious.	Subacute to ignorance of presence.
Symptoms and signs	General health usually not robust; pain and disability often pronounced; joint swellings and muscle atrophy to be observed.	General health usually excellent; pain and disability usually slight; joint swellings and muscle atrophy rarely noticeable.
Roentgenologic Appearances:		
Early	No apparent cartilage or bone changes; generally, increased density of soft parts of joint.	Slight "lipping" of articular margins; no general increased density of soft parts of joint.
Late	Diminished density or bone atrophy; narrowed articular space; subluxation and ankylosis.	Unless through long nonuse, no diminished density of bone; articular space irregular; hyperostoses; no ankylosis.
Morbid Histology:		
Early	Early proliferation of synovial membrane; pannus; usually small round cell infiltration.	Early fibrillation of articular cartilage; no general proliferation of synovial membrane or small round cell infiltration; chondro-osseous hypertrophy of articular margins; joint mice.
Late	Late destructive and atrophic processes in cartilage and bone; fibrous or bony ankylosis.	Eburnation, deformation and hypertrophy of articular bone ends; cyst-like cavities in cancellous bone near the articular surface; no true bony ankylosis.

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We recognize in both types the possibility of endocrine dysfunction, but at present our knowledge of this relation needs expansion.

In the atrophic type, the exciting causes may well be exposure to cold and damp, toxemia or infection from bacterial foci or the intestinal canal. The joint signs and symptoms may represent allergic phenomena.

In the hypertrophic type, the exciting causes may well be intermittent, occupational, or sudden trauma; degenerative changes associated with a premature or normal senility.

D. Recognition and Treatment of Prodromes and Early Signs

Recognition of prodromes and early signs and of the fact that people may be threatened with chronic arthritis is essential for control. Early signs must be taken seriously and underlying causes combated earnestly.

We may draw an analogy between chronic rheumatism and tuberculosis. Less than 50 years ago, the preconsumptive asked his doctor to relieve his malaise and give him medicine for his hacking cough in order that he might continue to work with less discomfort. The doctor usually did this and nothing else, although he recognized the disease and often knew the futility of such measures. Today, because of persistent public education and propaganda, the patient himself usually recognizes the possible seriousness of these symptoms. His own attitude, as well as the attitude of his physician, has changed. The patient now approaches his friendly adviser somewhat as follows: "Doctor, I think I have tuberculosis. If I take a year in a sanatorium, do you think my disease can be arrested and perhaps cured?" and the doctor says with conviction, "That is your best chance and a good one." It *is* a good one and tuberculosis is being controlled.

I would remind you also that although Koch taught us the specific bacterial cause of tuberculosis fifty years ago, we are controlling and curing tuberculosis by raising the patients' resistance to the generalized disease, and only very rarely by a direct surgical attack upon the bacterial foci of infection.

We should think along these lines in relation to chronic arthritis. It is today a vastly greater

human and economic problem than tuberculosis. The associations for the control of tuberculosis have taught us the methods by which the generalized disease, chronic arthritis, may be controlled.

E. Hospital Facilities

More research workers and more hospital beds for diagnosis and treatment of chronic disease are badly needed. Many general hospitals will not even admit a patient with chronic arthritis, almost none will allow him to remain long enough to have his treatment stabilized or even to have a trail blazed toward his rehabilitation, which trail his general medical adviser may then convert into a high road.

Sweden has a population of about 6,000,000. There are now five national hospitals and two convalescent homes with a total of 500 beds available for the sole treatment of chronic arthritis. These United States of ours are put to shame.

IV. EXPECTATION OF RESULTS

We are able to almost codify the laws of prevention. We may look forward to control, arrest, or complete rehabilitation of early cases of chronic arthritis under the following conditions. They must be seen before permanent joint changes have occurred. They must be made to realize that their present important joint symptoms are potentially crippling if ignored by themselves or treated lightly by their medical advisers. They must have wise, persistent, inclusive study and treatment carried out for a sufficiently long period and under favorable environment. This period is measured by months and years, not by days and weeks.

In a large out-patient arthritic clinic in Boston the percentage of arrest or recovery of all cases seen is over 60 per cent. In the national hospitals for arthritis in Sweden, where the moderately severe cases unable to work compose the majority of patients, Kahlmeter finds that after three years from the time of discharge about 60 per cent. of the patients have either permanently recovered or are able to maintain themselves; 18 per cent. more require no more pensioning and only 23 per cent. must be pensioned as chronic invalids. The younger the patient and the shorter the time he has suffered from his illness, the better are the results. These figures may be bettered in this country if we will. We are convinced of the wisdom of state hospitals and sanatoria for tuberculosis, why not state hospitals and convalescent homes and radially controlled local clinics for the larger problem of chronic arthritis? This would not be bringing state medicine nearer. It would be putting it off longer. It would result in restoring the confidence of the public in the ability of the family physician to deal successfully with chronic rheumatism. There is now a lack of knowledge and a lack of facilities for accurate diagnosis, study and life planning in the patient's home by the general practitioner. Once the plan is drawn, the house of health may be slowly but staunchly built by the family physician. At the present time too many of his houses are built on insecure foundations. They are not built upon rocks but upon sand, and at the first wind of untoward circumstances they totter and our reputation as builders suffers from the fall thereof.

HUMAN DOCUMENT No. 3

A woman of fifty. Increasing incapacitating symptoms in back and both hips for six years. X-rays show well-advanced hypertrophic arthritis in the spine and both hip joints. Double malum coxae senilis. Low blood pressure, low basal metabolism, anemia. Bad body mechanics, overweight, constipation. Mental depression. All surgical foci including uterus had been removed. Medication ad nauseam. Little left save the arthritis which was going on as merrily as ever. This was the picture when consultation was sought. *Treatment.* Complete medical review. Rest and heliotherapy enjoined. Endocrine necessities met, body mechanics corrected, support afforded to affected joints, overweight reduced, prolonged study of alimentary needs, diet stabilized, constipation relieved. Frequent periods of hospitalization. Motion in hips retained, slightly less in range but painless. Period of observation six years. **End result for last** two years: enjoys excellent **health, walks two miles,** motors freely, **no longer mentally depressed, runs a farm. Process quiescent.**

HUMAN DOCUMENT No. 4

College student of twenty-two. Duration of symptoms six months. Cause unknown. Spindle-shaped tender, dusky swelling of several midphalangeal joints of hands, tender swelling of metatarsophalangeal joints of feet, minor joint symptoms in several other joints. No permanent joint damage. Fatigue, constipation, low blood pressure, moderate secondary anaemia, bad body mechanics, vasomotor disturbances. Tonsils already out, teeth checked up, no known surgical focus. Medication had been without avail. Never laid up but growing worse. This was the situation when consultation was sought. *Treatment.* Hospitalization for six weeks. Unsuspected and innocent Neisser infection discovered in course of thorough investigation. Rest, heliotherapy, steam baths, local treatment to source of infection. Body mechanics corrected. Period of observation seven months. Steady improvement. Has returned this autumn to college. Considers herself practically well and may be expected to remain so; a brand snatched from the burning.

We believe that this last document represents the type which is prominent in the minds of most physicians. There is a specificity about this type which is intriguing and satisfactory. We would leave with you our own impression that although such cases comprise a fortunately easily solvable group, they will continue to play a very minor part in the main solution of the problem of chronic arthritis. In any event, as we sense it, the profession seems inclined to believe that the aphorism of O'Connor is generally applicable to the attack on chronic joint disease. "Hope is such a *poor* virtue that Disappointment pays her debts." To be sure faith

without works is dead. But faith in the possibility of arrest and cure of chronic arthritis before it has been allowed to produce permanent joint changes is justified, if the works are intelligently administered. Then Hope will be *rich*, and Disappointment will have few debts to pay.

CONCEPT OF THE AMERICAN COMMITTEE FOR THE CONTROL OF RHEUMATISM

CONCERNING THE DISEASE COMMONLY CALLED CHRONIC RHEUMATISM OR ARTHRITIS

1. The disease chronic arthritis, prevalent in all temperate zones, represents one of the most important, if not the most important, of existing social and industrial handicaps.
2. The Committee conceives of the disease as a generalized disease with joint manifestations. Certain prodromes may be recognized and it is of vital importance that they be recognized.
3. It is the opinion of the Committee that at the present time no single infectious agent or any completely defined dietary deficiency or metabolic disturbance has been conclusively shown to be the sole cause of these disorders. The Committee inclines to the belief that any one of these factors, or certain combinations of these factors, under appropriate circumstances, may basically underlie the onset of the disease.
4. The Committee feels it of vital importance that the medical profession have its attention directed to the methods of treatment of proved value which are at present at its disposal. In spite of etiologic uncertainties, the Committee feels that properly managed therapy, which takes into account both infectious and metabolic factors, has yielded results which encourage optimism and impose the obligation of further developing such methods.
5. In the light of the foregoing considerations the Committee purposes to broadcast, as widely as possible, both to the profession and to the public, its concept of the nature of the types of arthritis included under the heading chronic rheumatism, its belief as to the probable predisposing and exciting causes of the disease, and the knowledge which the Committee possesses or may acquire as to the most efficient methods of treatment.

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WHAT IS ORGANIZED MEDICINE'S ATTITUDE TOWARD PUBLIC HEALTH ADMINISTRATION?*

BY WILLIAM H. ROSS, M.D.†

INTEREST is usually not lacking in any discussion of a subject in scientific medicine. It is more difficult to arouse thought and action in discussion of a subject to which the medical profession has not thoroughly awakened. For the last decade we have heard a good deal of the economics of medicine, of the activities of health organizations, and of the increasing interest of government in the health of its people. We have been told that medicine is under siege and that the state is becoming too paternalistic in health matters.

The public is becoming increasingly informed of the possibilities of health protection. Public opinion is increasingly assuming that public health organization for administration is exclusively a governmental function. The attitude of medicine generally is that the profession is the leader in public health endeavor. The fact is that these two factors are about coequal. While preventive medicine is a matter of public concern, it does not follow that public health can be administered only by public agencies. Frank coöperation would give the best results.

Public opinion is increasingly raising issues regarding public health problems. There are many examples of this. In New York State a Governor's Commission has been studying the efficiency of public health practice in the state and the adequacy of the present health laws for the distribution of measures to protect the health of the public for a year and a half. The Governor of Illinois has appointed a Health Commission on Legislation in Child Welfare. The Governor of the State of Iowa has appointed a Health Commission, representing organized medicine and the various health organizations of the state. The Hamilton County Medical Society of Cincinnati is holding conferences with all of the publicly and privately supported health agencies. The physicians of Detroit are coöperating with their health department. There are many other examples of the trend of medical thought toward the public health and sickness problems.

The practice of medicine is no longer only a private business. Medicine is too often on the defensive. It has not usually presented a program to meet public health needs. It has not formulated a program of such a scientific and practical nature that it will make practicing physicians leaders in matters of public health endeavor. Not much longer will it be wise to

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oppose the public in the organization that it wants for the administration of health. It will be better to increase the public services of medicine and give the physician the opportunity of new fields of activity.

The advancement of the science of medicine is in a satisfactory state but the relationships of medicine are facing a trial in many places which should give each one of us anxiety though we all believe that it is a passing trial. Many medical problems confront the profession of medicine aside from the advancement and availability of its science. Most of them have arisen in the last decade. These problems have come into existence with the activities of the state and of health organizations.

Public health education has created a new public interest. Medicine's frequent defensive opposition is a potent factor in public unrest regarding the cost of illness, the availability of curative medicine, proper organization for the distribution of modern preventive measures for the control of disease, over-specialization now representing fifty per cent. of the profession, and the slipping from his former position of influence of the family physician—the most important member of society and upon whom there rests the responsibility for protection of the health of the public more than upon any other factor in public health.

While the public is in this state of unrest, the profession is disturbed regarding the fears of state medicine, possible interference with the private relation of doctor and patient and of its future professional welfare. This is about the situation today. All this has come about so fast that there has not been time to work out the limitations or responsibilities of each group concerned in public health, nor for each group to understand the mutually to be respected differences.

Public sentiment expects the medical profession to take leadership in sound health programs and will only seek other sources of leadership if it fails. If it is true that the public expects leadership of the profession, it is also true that if it gets it, it will support the profession. The public does not see a reason for medicine's objection to coöperation with other agencies to whatever extent they are useful since medicine will have the increased work of new fields of activity. It is unnecessary to speak of the social influence of the profession of medicine from the very beginning of history. It is unnecessary to say that medicine has ever been faithful to its ideals of service and that no individual in sickness or injury has ever been denied professional aid. Service to our fellows is a part of our professional character. This is really the foundation of the practice of medicine and gives to medicine its greatness.

Not by closing our eyes to the public relations of medicine or by opposing coöperation with health organizations representing public opinion will we improve the position of medicine. The great problem before medicine is to meet the public needs in health service, to determine the soundness of health organization proposals, to keep alive the ideals of medicine, and safeguard the profession's economic welfare. This is an asset to medicine and to the public. There should be no essential difficulty in establishing a coöperative relationship between practicing physicians and the several phases of a public health program to be administered by a department of the state government. As William Osler said, "The rent in the robe of Aesculapius could be repaired by mutual concessions." There is a positive interdependence of the public represented by health organizations and the state, on one hand, and the profession of medicine, on the other. Neither can get along without the other as well as they can by coöperation.

Among the complexities of modern life is the acute problem of the availability of medical services to all classes and the availability of preventive measures for the control of disease. These two things might be stated as simply the private services of medicine. We accept the fact that public health administration requires an efficient health department and that medicine is not organized for the administration of public health. We know that unofficial health organizations perform a useful educational service and yet we frequently oppose efforts to solve socio-medical problems which organized medicine alone cannot solve. Medicine was organized at a time when its problem was little more than the individual relationship of doctor and patient. When social problems began to grow with changing conditions in the progress of civilization and increasing density of population, new conditions appeared. It is difficult for physicians to work out this problem of relationships because a physician is an individualist. "His social horizon is limited by the very nature of his calling and the traditions and customs that have become a part of it."—(Parnell.)

In many sections and states organized medicine has created public relations committees whose members are informed as to the problems of medicine for the purpose of advising it as to its relationship to public health needs and to the trend of government toward assuming responsibility for the health of its people. Perhaps the Medical Society of New York State has advanced a little farther in the last few years in public relations than other state societies have done, but this does not mean that a general working coöperation is having an easier time in New York State than elsewhere.

A great fear of the profession today is state medicine. It is probably inevitable that state medicine will increase as the complexities of society increase. Whether this will be injurious depends upon just how it develops and the interest that the profession takes in its develop-

ment during the formative stages. As this country grows older, the parental function of the state is likely to increase as it has increased in older countries. Such things, however, are not socialistic any more than we call the paternalistic function of government in good roads and in education socialistic.

Organized medicine is facing something of a crisis today because of its objection to proposals by organizations representing the public and the activity of the state in caring for the health of its people. We showed little interest in the enactment of the Public Welfare Law or in Old Age Pensions. It would have been easy to have guided these in the formative stages.

There has never been a time of greater need for organized medicine to think carefully of its public attitude toward the solution of the many medico-social problems and health needs of today. If we do not take the leadership, government will have to do it because public sentiment, when aroused, is quite likely to find ways of getting what it needs. Medicine is today in a strategic position. It can take leadership in the solution of problems. For example, it can guide proposals for meeting the arthritis problem in Massachusetts. Its public position on public health questions will determine its future influence. Health organizations get their chief incentive in medicine's failure in meeting present-day health problems. The responsibilities confronting the profession of medicine today in public relations are comparable to the responsibilities confronting nations in times of disaster or war. Looked at either as service to the public or as making secure the profession's economic welfare, it is a matter of public interest.

The medical profession has only one opinion regarding the progress of scientific medicine, but many opinions about the problem of its public relations. Two years of intensive study of the problems in New York State from the viewpoint of the practicing physician and the viewpoint of the civic-minded public show that the position of medicine regarding socio-medical problems is one of aloofness. It seems that if the profession of medicine is to find its way out of a situation which many physicians believe is not adjusted to modern conditions and which if not soon adjusted will likely become inimical to the profession's welfare in the future, it will not be by continuing warfare with health organizations but by conferences with them so as to reach a mutually satisfactory adjustment of relationships. It is quite plain that the profession of medicine, as a whole, does not realize that we are living in a transitional period of medical service. New forms of medical service are being created by forces as subtle as those which disturb the economic relationships of the world. Just as we are going through a period of deflation after war-time inflation, so is it true that medicine is beginning to include preventive services with curative services and preventive services require an organization which must be supplied by government. Medicine, however, must be depended upon to evaluate these services and give leadership to them.

Hitherto, organized medicine has never forgotten its public services. It seems evident that we are now just going through a period of transition on our way to maturity of judgment regarding new public services. At present it is not quite apparent in professional mass opinion that it can continue to maintain the position that it desires in public opinion and at the same time continue to oppose plans to increase the public services of medicine in proportion to the needs of present-day social evolution. Sooner or later medicine will recognize the socio-medical problems of a changing world and realize that the more the public receives from it, the more the public will contribute to it.

The profession soon will realize that the greatest public interest today is the prevention of disease and the greatest interest of government is the health of its people. Public opinion in health matters is just as different from a decade ago as the science of medicine is different from a decade ago. To meet the situation in the public services of medicine and particularly to assist in the solution of the problems in the prevention of disease will bridge the most dangerous gap that the profession of medicine faces today.

THE PRESENCE OF A DISTINCT INSULIN IN DEPANCREATIZED DOGS AFTER PANCREATECTOMY

BY GEORGE H. TUTTLE, M.D.*

IN the Oliver-Sharpey lectures Professor Macleod has emphasized the importance of accurate studies of the metabolism of the depancreatized dog as our best basis for deductions upon diabetic subjects and has approved the work of Soskin as giving exact data upon the subject. Although one may acknowledge the accuracy of these tables, it is not necessary to agree with the explanation of the author or with his deductions in favor of the "Overproduction Theory of Diabetes." In the present article it is proposed to use these tables to show the existence of an extra-pancreatic (or cellular) insulin in the dog after pancreatectomy. This

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would appear to be demonstrated if the oxidation of a considerable amount of glucose can be shown in the absence of the pancreas, because it is generally acknowledged that glucose cannot be oxidized in the absence of insulin. Such oxidation will be shown. It will also be shown that this cellular insulin only exists in small quantities at first but that its amount increases as the experiments go on and reaches generous proportions toward the close, as indicated by the respiratory quotients of 0.90 or more. This insulin, in normal dogs, is only required to do a part of the work of metabolism, since it is ably assisted in producing oxidation by the pancreatic insulin; but when the pancreas is removed, it has to do double duty and so increases in amount. It is doubtful if cellular insulin can be extracted from normal animals since the amount existing in any one part of the body must be small; yet data from these tables show that it may be so stimulated by the high blood sugar that it will cause the oxidation of a large percentage of the ingested carbohydrate in depancreatized dogs. My sole object is to prove the existence of this insulin, as an insulin distinct from pancreatic insulin. This insulin is very flexible and under certain conditions may be largely increased in amount and efficiency, as these tables show.

And now comes the consideration and analysis of the tables of Soskin in detail, in which is revealed the most extensive study of the metabolism of ten depancreatized dogs that has ever been made. These tables are too extensive to reproduce and I would advise the reader to secure a copy of the *Journal of Nutrition* for September, 1930 before attempting to follow the arguments offered. From these tables I shall attempt to show:

1. That the extra-pancreatic (or cellular) insulin already existing in the dogs after operation and recuperation, gradually increases in amount under the stimulation of the high blood sugar, so that it oxidizes more and more glucose, as shown by the R. Q.
2. That a larger and larger amount of glucose is retained by the dog in the period *before* dextrose is given to him.
3. That this retained glucose is utilized partly by oxidation under the influence of cellular insulin, and partly by conversion to lactic acid (without such influence) in the course of muscular action and utilized anaerobically.

In order to show these points I have selected Soskin's dog, No. 6, the record of which appears in Table IV, because he lived 18 days and consumed all of his food at every meal during life, so that the R. Q. and D. N ratios and all other details are complete. It is necessary to construct a table of equivalents for the first seven days of the experiment as follows:

GLUCOSE TABLE OF DOG 6 — TABLE IV

GLUCOSE VALUES

Glucose from Daily Food	Glucose Excreted	Glucose Retained	Glucose from Deam. Protein	Protein Deam.	Nitrogen Excreted	D:N	R. Q.	Remarks
	63.49	21.01	62.87	108.4	17.34	3.66	.696	1st day
	41.69	42.81	57.88	99.8	15.97	2.61		
	54.74	29.76	62.93	108.5	17.37	3.15		
84.5 gm.	35.25	49.25	55.56	95.8	15.33	2.30	.730	
	41.31	43.19	58.29	100.5	16.08	2.57		
7 days	34.04	50.46	55.10	95.	15.20	2.24		
591.5 gm.	39.97	44.53	63.43	109.4	17.50	2.28	.707	7th day
Totals	310.49	281.01	416.06	717.4	114.79	0.00	.906	18th day

Values in grammes. Length of experiment 18 days.
Loss of weight 5.94 — 3.31 = 2.63 Kg.
Daily food 400 gms. meat + 30 gms. gelatin. Ate all of his food every meal.
Amount of acidosis not recorded. Probably slight. No vomiting.
50 gm. Dextrose given 8th day (Retained 20.13 gms.)
" " " " 15th " (" 27.16 ")
" " " " 17th " (" 24.00 ")
Postmortem—No pancreatic fragments.
No subcutaneous fat. (A lean dog was used.)
Liver fat = 1.5%.

Estimates from Soskin's Tables. *Journal of Nutrition*, September, 1930.

The potential glucose of the food retained in the body is only partially utilized at once; much of it being retained in the form of proteid or fat. The glucose derived from the deaminized proteins and the 10% fraction of ingested fats represent the glucose immediately available for aerobic oxidation or anaerobic utilization; so that the actual amount of glucose immediately metabolized can be shown by subtracting the amounts excreted in the urine from the total amounts available for utilization, thus giving a comparison between the total amounts

retained and that actually metabolized for each day of the first week of the experiment.

Glucose Retained	Glucose Metabolized
21.01	6.08
42.81	22.89
29.76	14.89
49.25	27.01
43.19	23.68
50.46	27.76
44.53	30.16
281.01	152.47

The potential glucose retained averaged 40 gms. per day. The glucose metabolized averaged 21.8 gms. per day. The column of glucose retained was obtained by subtracting this glucose excreted from the glucose ingested. Since the dog ate 84.5 gms. daily for seven days, the total was 591.5 gms. In the same time he excreted 310.5 gms. C, giving a balance retained of 281 gms., or an average of 40 gms. per day.

The daily food, consisting of P. 134 F. 67, was completely consumed and gives a glucose value of 84.5 gms. The figures of columns marked "R. Q.", "Sugar Excreted," "Nitrogen Excreted" and "D:N" ratio are copied directly from Soskin's tables. The column "Proteid Deaminized" was calculated by multiplying the nitrogen excreted by 6.25. The column of glucose from proteid was obtained by taking 58% of the proteid deaminized.

But all of the protein of the food was not deaminized and converted to glucose, as shown by estimating protein from excreted nitrogen. Such estimation shows 938 gms. ingested and 717.4 deaminized, 938-717.4 = 220.6 gm. P which was added to body protoplasm, or 31.2 gm. per day. This shows that body tissue or protoplasm was not being depleted although the dog was losing weight steadily; this was undoubtedly from fat and dehydration of the diabetic state, since at death all subcutaneous fat had vanished. So that as the proteins of the body were not being drawn upon or depleted, the calories for metabolism must have been drawn first from the excess of 21.8 gm. C per day and the balance from fat. The loss of weight of the dog was chiefly from dehydration, due to the severe diabetic state. The blood sugar averaged 0.440 mg. daily. During the last five days of life the total retention of glucose by the dog averaged 54 gms. per day, and the R. Q. rose to 0.906.

How can anyone explain the utilization of 21.8 gms. of glucose per day during the first week without admitting the existence of extrapancreatic (or cellular) insulin in the dog after pancreatectomy? And later still more was utilized.

How could carbohydrate oxidize without it? (See R. Q.) Yet it did oxidize.

OBSERVATIONS

The most important point to be noticed first is that the amount of glucose retained and utilized increases steadily during the seven days and at the end of that time it is easily twice that of the first day; but if we look at the R. Q. (707), it is seen that only a little more was oxidized than on the first day (or .696). So that most of it must have been utilized by the muscles anaerobically and converted to lactic acid, as explained before. But if we return to Soskin's Table IV, we see that before death, on the 18th day, the R. Q. had risen to .906, showing that a large amount of glucose was oxidizing, and since glucose cannot oxidize without insulin, it shows that the *cellular* insulin had increased in proportion. This could occur in no other way.

The above facts prove the three articles of my creed as stated above. If the reader will turn to the Soskin's Table No. III, he will see that this dog developed a severe acidosis with vomiting upon the 5th day. The total ketone excretion at the time was 5617 mgms. Five units of insulin were given him and the vomiting ceased. When the ketone excretion was estimated 24 hours later, the amount had been reduced to 1445 mgms. This decisive effect appears to suggest that insulin is necessary and actually used for the oxidation of fats; and it suggests that in the depancreatized dog the cellular insulin already there is busily engaged in bringing about the oxidation of fats (R. Q. .70), and as the amount of it slowly increases under the stimulation of abundant carbohydrate in the blood, it begins to oxidize a little glucose and then a little more until in our case a final R. Q. of .906 is obtained before death. I believe that the death of those dogs is not due to the fact that this cellular insulin cannot be developed sufficiently to fulfill both its own function and that of the pancreatic insulin; but because, as I have stated in a previous essay, some vital hormone from the pancreas, similar to *cortin* of the suprarenals, is lacking; since, when the pancreatic juice is removed from the body for 10 days by fistula, the dogs also die. Although previous to the experiments it was necessary to feed 50 gm. of raw pancreas (containing the hormone) to keep the dogs healthy, this was withdrawn at the beginning of the experiment and hence death necessarily followed after a period limited to six weeks.

If those interested will look over Soskin's Tables Nos. I, IV, VI, IX, this same rise of the R. Q. and fall of the D:N ratio will be seen. Also in experiments where dextrose is given, it will be seen that the R. Q. rises and this could not occur without cellular insulin being present; and that more and more glucose is retained as the experiment goes on. The rise in the R. Q. in these tables shows the amount of new cellular insulin which has been brought into existence by the high carbohydrate stimulation.

CONCLUSIONS

1. It has been shown that a considerable amount of glucose oxidizes or is utilized anaerobically by the depancreatized dog.

2. Since insulin is necessary for the oxidation of glucose, it has been shown that extrapancreatic or cellular insulin must exist in the normal dog after total pancreatectomy.

3. The amount of this insulin gradually increases under the stimulation of the high blood sugar as the experiment progresses.

4. The reason why this insulin can increase thus is because the dog was not naturally diabetic at the time of operation, so that his cellular insulin can be normally increased by carbohydrate stimulation. If he had been naturally diabetic, no such increase or one much less, in proportion to the severity of the diabetic state, would have resulted (because the mechanism for producing cellular insulin may also be deficient in many diabetic states).

5. Muscular action uses up considerable amounts of blood sugar anaerobically without the need of the assistance of insulin; and consequently in diabetic cases where there is a deficiency of insulin such exercise takes the place of a certain amount of insulin in keeping the blood sugar near normal.

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THE SIGNIFICANCE OF A COMPLEMENT FIXATION TEST IN THE DIAGNOSIS OF GONORRHEA

BY WILLIAM FRANKMAN, M.D.*

HISTORY: R. J., aged twenty-seven, married for the last two years, lived with husband for two months only and then separated from him.

Previous Illness: Measles and pneumonia during childhood. Menstruation began at age of fifteen and one-half, duration of periods three days. No dysmenorrhea. Last menstruation September 11, 1931 (saw patient for first time September 18, 1931).

Recent History: During the early part of March, 1931, the patient had sexual intercourse, with a person of questionable character, while under the influence of alcohol. At the end of said month the patient was admitted to one of the reputable hospitals in Boston from which I received the following report of her case:

"She was admitted March 31, 1931 complaining of pain and stiffness of both elbow joints and was discharged on April 26, 1931 as cured with a diagnosis of acute infectious arthritis."

She was readmitted May 8, 1931 complaining of pain in the abdomen lasting twenty-four hours. Physical examination revealed an acutely ill patient with moderate tenderness in both lower quadrants, more marked on the right over McBurney's point; profuse vaginal discharge; slight periurethral redness; cervix tender; uterus tender; blood pressure 112/72; temperature 102.8°; pulse 130; respiration 24. Urine showed s. p. t. of albumenacetone, loaded with w. b. c. 5-10 r. b. c., w. b. c. 20800, vaginal smear showed many gram-positive organisms (negative for Neisser infection) apparently not many smears taken. Signs and symptoms on admission were consistent with acute pelvic infection, conservative treatment was instituted, following which temperature declined to normal on May 11, 1931. On May 16, 1931 bimanual examination revealed uterus anteflexed, anteverted. There was a soft rounded boggy tender mass in the left vault which was thought to be due to a tubo-ovarian mass.

On May 22, 1931 operation was performed consisting of a left hemisalpingectomy, a left oöphorectomy, an appendectomy, and suspension of uterus. Evidence of pelvic inflammation was found during the operation. Diagnosis: Acute pelvic inflammation, ovarian cyst (left) chronic appendicitis.

This report was given to me by the above hospital. The patient has since visited a clinic of another reputable hospital several times, complaining of pain in the joints. Cervical smears were taken and reported negative for Neisserian infection.

The same patient came to this office on September 18, 1931 giving the above history, also stating that she had recently had sexual intercourse with a physician who claimed that she infected him with a Neisser infection and he made the statement to this lay patient that she must have had gonorrheal arthritis when she was at the above hospital. So much for her history.

Physical examination: height 5-3", weight 120 lbs. general appearance of good health. Blood pressure 105/70; throat negative; teeth negative; tongue coated; heart and lungs negative; patellar and pupillary reflexes normal; abdomen normal, scar of medium incision (recent operation); vaginal examination showed very slight discharge of mucus from cervix; otherwise normal. Smears taken for office and City Laboratory negative for Neisser (about eight smears taken). Pus cells, many organisms. Wassermann test negative (for lues). Complement fixation test for gonorrhea City Laboratory *Positive.* . . . This proves the diagnosis that she had in March acute gonorrheal arthritis in spite of all the negative smears.

Here is a case brought into a hospital with an acute elbow arthritis and no origin of infection to account for it. Her sexual intercourse in March (questionable plus alcohol), her recent history of infecting a physician with gonorrhea, also her present complement fixation test positive are enough to make those negative smears blush with shame.

CONCLUSIONS

(1) This case should prove that a history is more important than a dozen negative smears.

(2) A complement fixation test will always help in a chronic case to get a definite diagnosis.

(3) Always think of Neisserian infection before reaching for the knife to remove any organ in a female pelvis.

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THE NEW HAMPSHIRE MEDICAL SOCIETY

THE GENERAL PRACTITIONER ON THE WITNESS STAND*

BY CHARLES F. KEELEY, M.D.,† CLAREMONT

THE thought has occurred to most of us, if not the actual experience, of being called upon to testify in court. Such an experience is increasingly likely in view of a recent talk by our eminent Chief Justice Sawyer in which he declared that the greatest number of court cases was due to the automobile. We must realize that we are open to summons from these, in addition to compensation claims and our own liability from malpractice suits. And we should give some thought to the impression which we, as general practitioners, are likely to make when called to the witness stand.

It was my good fortune not long ago to recognize in court a friend of higher intellectual type than the average, and after the hearing I asked him his opinion of medical testimony. His reply confirmed my own belief. It was, in brief, as follows: Under questioning from an attorney whose knowledge of medicine and surgery was inadequate, the doctor, in an attempt to secure justice for an aggrieved party seeking redress at court, was trying to give evidence in his own way and in his own words for the information of the jurors who either lacked interest or found the testimony too far over their heads.

In my opinion this is our exact position in most instances. I believe that medical testimony, expert or otherwise, is far from satisfactory in securing justice for plaintiffs, in deciding the extent of injuries, and in giving definite prognosis of such cases. My belief in this matter is based on several factors.

First let us consider ourselves, the doctors, and when we have admitted our own failings we may pass on to a consideration of those of our confrères.

There is at the outset the matter of case records. A complete case record is not simply the fact that J. Jones had a broken leg in 1928, that you saw him fifty times besides reducing the fracture, and that your bill is so many dollars. My experience leads me to believe that a very small minority of us keep adequate records. We try to recall important facts of the case, and in most instances cannot do it. Some of us have had that difficulty, and it certainly is embarrassing.

If we make any notes—and we should—it is a good policy to save them, no matter how they are written, until the case is settled. Whether you are testifying for the plaintiff or the defendant, the notes look good to the lawyer, to the jury, and best of all, to us. Should the case have been serious enough to have gone to a hospital we are most fortunate, particularly because our hospitals are very insistent on keeping records up-to-date on completion of physical examinations of patients.

Again in regard to ourselves, there is one feature which we must do all in our power to eliminate from our testimony, and that is the human or so-called partisan element. Now there is John Jones, whom you have taken care of for a number of years. His financial circumstances are none too good. He has been hit by an out-of-state car, covered by insurance, and liability has been established. Now you want John to get all he can, and incidentally be able to pay your fee. You don't want John to come back from court and spread the news that you didn't give him a good "break". Right here you must guard yourself to the utmost against coloring your testimony, unintentionally and perhaps unconsciously, through a desire to give John his "break". This does not often happen, although it does occasionally. We must remember that every bit of exaggeration of an injury hurts no one so much as the doctor himself, who thereby unwittingly belittles his own ability. If results are worse than the average, a wise juror may wonder why; and when he comes to the consideration of the evidence in the jury room, he may conclude that the extra compensation sought is due not so much to the original injury as to the inability to handle the case properly from a medical standpoint.

Do not be positive in a reply if even a slight doubt exists in your own mind. It is best from every standpoint that you admit this doubt.

Next comes the matter of cost. Most doctors called to the stand come as ordinary witnesses, but qualify as being able to give opinion evidence. With a good case record, and with the human element eliminated, this opinion has great weight with the jury and a doctor should receive a nominal fee for it. He should bear in mind, however, that his community has a standard of quality in the practice of his art, and that he is not to be regarded as below or above that standard. Therefore, if he knows that his testimony is of real value, let him be guided not by what he feels the client is to receive as a result of it, but by what any other of his confrères would obtain for such service.

By this I mean that if you testify that A has a broken back and will never be able to work

*Read at the Annual Meeting of the New Hampshire Medical Society, Manchester, N. H., May 20, 1931.

†Keeley—For record and address of author see "This Week's Issue," page 30.

again, do not feel that because your opinion helped him to obtain $25,000 or $50,000 damages, your fee should be correspondingly large. Remember that you are testifying for A's back and not for a fee. He did the suffering, and your care of him should be in his bill.

So much for ourselves. Now let us consider our friends the lawyers.

Great injustice is wrought to a client in court by a lawyer insufficiently familiar with the patient's disease or injury to question the doctor properly. Many lawyers work up a beautiful case in establishing the liability, only to fail miserably in the bringing out of the medical testimony, and I have seen proper handling of medical testimony by the other side break down the evidence of liability.

Perhaps I can explain this better by citing actual cases.

A certain case of manslaughter resulting from an automobile accident was being tried in one of our New Hampshire courts. The victim of the accident had a longitudinal depressed, comminuted fracture extending from below his left eye up through his left frontal bone directly over the eye, with an evulsion of the eye. The attorney for the State did not ask for a description of the injury, and the attorney for the defense, for obvious reasons, avoided it absolutely. It was the claim of the defense that the victim had his head out of the car window and was struck by the body of the defendant's truck.

Familiarity with anatomy would have shown this to be impossible. A perpendicular injury of that particular type could never have resulted from such a blow as described. It would have been more horizontal and would have taken off the side of the head. What actually happened was that the victim was thrown over the steering wheel and struck his head on the front post beside the windshield. But failure of the prosecution to establish this point and to refute the claims of the defense, resulted in acquittal of the driver of the truck.

In another case the injury was a hernia, an even more difficult subject to present properly and intelligently. The plaintiff claimed that he sustained a hernia when thrown from his buggy, his horse having become frightened by an electric car. The defense brought out the description of an indirect inguinal hernia, which the plaintiff's attorney accepted without question. In the first trial the jury disagreed and in the second trial rendered a decision against the plaintiff, whereas had it been brought out by the plaintiff's attorney that the description did not apply to his client's injury, he no doubt would have won the verdict.

Again, how many patients have you seen come from a lawyer's office with an exaggeration of symptoms or a collection of new symptoms? I realize that our friends of the legal profession bear us no malice, but their questioning of clients is done in such a way that the minds of the patients are unconsciously influenced.

For example, a patient injures his back. He decides to sue, and consults a lawyer. The lawyer says, "Hurt your back, eh? That's bad. Spinal injury." The patient says, "Yes. I have pains the whole length of my back." "Headaches?" "Yes." "Legs ache?" "Yes." "Sleep poorly nights?" "Yes." "Able to work?" "No." "Hurt you to bend?" "Yes." All these questions have their psychologic effect, and by the time the patient leaves he is a far sicker man than when he first went to see the lawyer.

Now just a word about the jury which hears our testimony and from which we hope to have a just verdict based on our evidence. You are all familiar with the argument as to whether trials by a judge are better than trials by jury. If I were innocent of a charge myself, I would prefer trial before a judge, but if guilty I would rather have trial by jury, in the hope of obtaining at least a disagreement if not an acquittal.

Jury trial is fundamentally sound, and the jurors themselves mean well. But if a group of men picked at random, merely because they happen to be American citizens, are capable of establishing liability and determining compensation, I miss my guess entirely. Can a laborer understand ordinary business? No; if he did, in all probability he would not be a laborer. Can a machinist determine anything from a discourse on chemistry? Positively not, because his specialized knowledge is in another field entirely. Add to these the fellow asleep in the jury box because the points in medical testimony are beyond him, and you have the type of jurors which your evidence must convince.

In closing, gentlemen, let us hope to do our duty by our patients, by their lawyers, and in the interests of justice, by:

First: Keeping adequate records.

Secondly: Avoiding the human element.

Thirdly: Knowing our points, seeing that your patient's lawyer does, and refraining from giving positive testimony on any point in which doubt exists, always remembering that you are not obliged to give a "Yes" or "No" answer without explaining it.

Fourthly: Being fair in the matter of fees.

Fifthly: Hoping some day to see a better way for justice.

Discussion

Dr. Loren F. Richards, Nashua: Dr. Keeley's paper has covered the most important points. I can only emphasize one or two. Within the last two years, I have been using a very small slip in my pocket-case. It is very nice to be able to refer to all the incidents connected with the injury as well as all details which have to do with the accident. I have adopted this

system of filling out the records at the time, and am able to file these records in my office and so have a permanent record which makes us feel more comfortable if the case should come to the court later on.

The second point which I would like to emphasize is our diction when called upon to testify. We have the habit of expressing ourselves while discussing medical subjects in a language which no one other than a physician can understand. Everybody informed about the case, if their intentions were honest, would appreciate diction, or a translation of medical terms into terms which a reasonable man of the street understands. One thing which should be particularly emphasized is the understanding between the lawyer and the doctor. Often cases fail because of an incomplete liaison between these particular groups.

DR. KEELEY: We want to get out of our heads, when appearing in a court case, the fear that we are going to make a mess of things, and the sooner we conquer that fear and establish more coöperation between the lawyer and ourselves the better pleased he will be and the more at ease we will all feel.

DIETS IN PREGNANCY IN RELATION TO LOW BLOOD SERUM CALCIUM VALUES AT LACTATION*

BY H. T. FRENCH, M.D.,† AND C. E. BOLSER, PH.D.,† HANOVER

IT is often observed that an obstetric patient may run a slight temperature and complain of considerable discomfort and occasionally of prostration when the breasts become engorged. It has been shown that in high-bred cattle the condition known as milk fever accompanying the stage of mammary engorgement, and which in some instances is fatal, is accompanied by a marked fall in the blood serum calcium level, and may be checked either by pumping air into the mammary gland through the udder or by the intravenous injection of calcium salts[1].

TABLE I

SERUM CALCIUM VALUE

At Delivery	Stage of Congestion of Mammary Gland	Days After Delivery						
		5	6	7	8	9	10	11
10.5	8.3	7.7						
10.4	9.0		9.4					
9.5	8.0		10.6					
11.4	10.0			11.4				
10.4	9.4				10.0			
10.2	9.7					10.2		
11.1	9.9							10.0
11.1	9.4							10.4
9.1	8.8							
10.6	9.9							

It was with these facts in mind that these determinations were begun, but we found no constant relation between the temperature rise at the time of engorgement of the breasts, which occurred in only three of this group, and the change in the blood serum calcium level. In two of these the blood serum calcium showed an increase at the time of the congestion and in the third a slight decrease.

Calcium determinations have been made on a group of eighteen obstetric patients with the objective of determining the changes which take place in the level of this substance in the blood with the beginning of lactation. This paper is a preliminary report of our findings, which are being continued to determine if possible the effects of these varying values on the milk secretion and on the newborn child.

An analysis of the first table shows that the tendency of women with a normal blood serum calcium at delivery is to show a fall of from one to two milligrams, 10 to 20%, with engorgement of the breasts and then for this to tend toward the original level, reaching this point within three or four days and remaining at this level when once it is reached.

TABLE II

SERUM CALCIUM VALUE

At Delivery	Stage of Congestion of Mammary Gland	Days After Delivery		
		8	9	10
8.1	9.8			
7.7	10.2	10.0		
9.9	10.2	10.0		
9.4	10.0		10.2	
8.1	9.9			11.1

The second table shows a group of women who have a blood serum calcium below the normal 10 to 12 mgs. per hundred c.c. These show a very different tendency with the beginning of lactation, for instead of showing a fall of the blood serum calcium level they show a decided rise of as much as 2.5 mgs., or 30 plus per cent. In these cases there was a tendency for this increased level to persist, as is shown by the third table, supplementary to the second, which shows four members of the same group on

*Read at the annual meeting of the New Hampshire Medical Society, Manchester, N. H., May 20, 1931.

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whom blood calciums were done daily to determine whether the blood serum calcium tended to remain at the increased level or to go back to the original level. The table shows that in three of the four the tendency is for the level to remain elevated; but in the last, in spite of the marked elevation of 2.4 mgs. with congestion of the breasts, there is a sharp fall following immediately after the initial rise with a tendency toward the earlier level.

TABLE III

SERUM CALCIUM VALUE

Days	At Delivery	1	2	3	4	5	6	7	8	9	10
		8.3	8.3	10.7	10.1	10.1					10.1
		7.1	7.3	7.5	7.7						
		6.4	6.1	8.8	8.8						
		6.8	9.2	8.1	7.7						

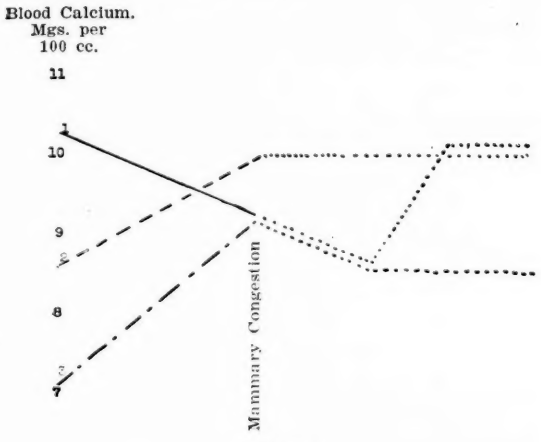

CHART I.
Blood Calcium Changes with Lactation.

These findings would suggest that in women with normal blood serum calciums the tendency with beginning of lactation is for a fall to occur in the blood serum calcium level due to the loss of calcium in the secreted milk, but that through some compensatory mechanism, possibly increased stimulation of the parathyroids by an internal mammary secretion, making stored calcium available, the tendency is to return to a normal level in spite of the constant drain on the supply in the blood.

In the second group, those who begin with low blood serum calciums, this stimulation comes at an earlier period, preceding lactation, and leads to an actual increase in the blood serum calcium at the time of beginning lactation instead of the decrease noted in the first group, and, as in the first group, there is a continued stimulation which maintains the calcium level at the higher point.

There is apparently a borderline group about the low normal level who will show very little change and this may either be an elevation or a depression of the level as from 9.1 to 8.8 and back to a normal of 10.0 on the eleventh day, or, in the second group, 9.9 to 10.2 to 10.0 on the eighth day.

It would appear that there is some stimulation brought into play by lactation which normally makes more calcium available in the blood stream for milk secretion, perhaps drawing for this on the reserves of the bony trabeculae, as suggested by Aub[2], and that this stimulation occurs earlier in those individuals with low serum calcium, producing such a marked reaction that the increased drain of beginning lactation does not produce the expected fall. This earlier stimulation might be considered as a protective reaction which would prevent the development of hypocalcemia.

Of the aggregate of these three groups, 60 per cent. at parturition showed a calcium content well below the normal of 10 to 12 mgs. per hundred c.c. The larger number of these low values occurred during the late winter and early spring, while the normals tended to occur in the late summer, fall, and early winter. This suggests somewhat of a seasonal variation in these values. If this proves true in other groups, the diets of these women are too low in calcium, and calcium absorption and retention is not satisfactory.

In a pregnant woman, certainly from the sixth month on, there is a constant drain on calcium to supply the needs of the fetus in its bone development and other growth[3]. It has been shown that even on well-balanced diets it is difficult to maintain a positive calcium balance in either pregnant[4] or lactating women[5] and that on low calcium diets there is a constant negative balance in normal individuals and that strongly acid diets tend to cause greater losses than neutral or slightly alkaline diets[6]. If the food does not contain a sufficient supply there is of necessity a drain on the mother's calcium depots such as the trabeculae of the bones and teeth. Sherman makes the statement that most normal diets are too low in calcium[7], and if this is true of normal diets, it must be increasingly so of diets of pregnant and lactating women with the increased demand of the fetus. The fetus, as well, may suffer from a lack of calcium in the mother's diet. Its bone formation may be affected, teeth may be poorly formed, and the tendency toward tetany and rickets may be increased.

If these low calcium values are found previous to lactation, the increased demand at engorgement and the continuing demand of lactation[8], often maintaining the blood calcium at a higher level, must cause an added drain on the calcium depots. Is it any wonder that many of these mothers complain of backache, that they show signs of bone absorption with x-ray, that they are slow in their recoveries from childbirth, that it takes a number of years for them

to come back and be in satisfactory physical condition to bear other children?

Especially is this true during lactation, because the calcium content of the milk remains the same regardless of the lack of calcium in the diet[7], meaning that the supply is drawn from the calcium depots of the bones and teeth if there is not sufficient calcium in the diet.

These results indicate that many parturient women reach the stage of lactation with an inadequate supply of calcium to the detriment of both the mother and child. Diets which contain a sufficient supply of calcium should help[9], and such a diet should contain sufficient fruit and vegetables to give a nearly neutral or slightly alkaline reaction to the residue, as diets consisting largely of meats, fats, sugars, and starches result in an acid residue and lead to an increased elimination of calcium, while diets with a slightly alkaline residue result in an increased retention of calcium. In addition to the fruit and vegetables there should be between a pint and a quart of milk daily, meat once a day, one or two eggs daily, with adequate bread and wheat cereal to supply the caloric needs. Calcium in the form of Calcium Lactate may be added to the amount of ten to twenty grains a day with vitamin D in one of its several forms to aid in the absorption of calcium from the intestinal tract[10].

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MISCELLANY

MILK "JURY" APPOINTED BY GOVERNOR WINANT OF NEW HAMPSHIRE

A jury was summoned by Governor John G. Winant of New Hampshire to meet at the council chambers in the State House, Monday, December 28. The purpose of the meeting was to consider the problem of slashed milk prices and dairy organization problems. The jury included Commissioner Andrew L. Felker and A. B. Pike of the State Department of Agriculture, President George M. Putnam of the State Farm Bureau Federation, John A. Hammond of the State Grange, George L. Waugh and M. Gale Eastman of the University of New Hampshire, Carl A. Smith of the Manchester Dairy System, George M. Rogers of Warner, D. W. Pinkham of Lancester, A. B. Wood of Bath, T. J. Frissell of Charlestown and John W. Pearson, statistician of the State development commission.

The Governor's action was taken because New Hampshire dairymen have been hard hit by lowered prices in the Boston market.

NEW MEMBERS AS OF NOVEMBER 1, 1931

Cayward, Claire Glendon, New Ipswich, N. H.

Guay, Lucien Pierre, 176 Wilson Street, Manchester, N. H.

OFFICERS OF HILLSBOROUGH COUNTY MEDICAL SOCIETY FOR 1932

President: Clarence E. Dunbar, Manchester.

Vice President: Harry M. Morse, Peterborough.

Secretary-Treasurer: Deering G. Smith, Nashua.

Delegates to State Society for two years: Pierre Bergeron, Manchester; Henry H. Dearborn, Milford; Timothy F. Rock, Nashua.

Committee on Medical Jurisprudence: David W. Parker, Manchester.

Censor for three years: Loren F. Richards, Nashua.

DEATH

Dr. Winfred Louis Biron of Manchester died at his home December 6, 1931.

VERMONT STATE MEDICAL SOCIETY

ULCER OF THE STOMACH AND DUODENUM*

BY E. STARR JUDD, M.D.†

AS in other diseases, the ultimate solution of the ulcer problem rests with finding the cause of the condition. When disease begins, and how and why it begins, must be determined by careful and detailed research study of clinical material, and by experimental investigation. So far as I know, nothing of great significance has been found recently regarding the cause of ulcer. It is my impression that in the last year or two, more cases of hemorrhagic ulcer have been observed than formerly. In most of these cases the bleeding started without the precedent of dyspepsia or other symptoms of ulcer; usually the bleeding was severe and was often the first evidence that an ulcer was present. It was possible to demonstrate that the bleeding was coming from an ulcer of the duodenum in most instances, and furthermore it was possible to determine that the lesion was of the duodenitis type. Often there would be an extensive inflammatory reaction through much of the first portion of the duodenum without any evidence of the crater type of ulcer, or any sign of a break in the mucous membrane.

The radical operation of resection of the stomach in the treatment of ulcer started in European clinics, particularly those in Germany and Austria. The procedure was advocated by these surgeons because, if they followed procedures less radical, they almost always had poor results due to the formation of one or more new ulcers. They feel that the cure of the condition depends on the removal of as much as possible of the lesser curvature of the stomach with its acid glands. The matter of recent interest is that physicians visiting European clinics are impressed with the severity of and the marked difference in the ulcers they observed there. The usual condition in this country is a comparatively small, localized area of inflammation in the cap of the duodenum. The lesion may be confined to the anterior surface of the duodenum, although not infrequently a small lesion is seen on the posterior surface when the duodenum is opened. Sometimes there is a small crater ulcer associated with the area of inflammation in the duodenum, but this is not always present.

When the lesion is in the stomach, it is more likely to be discrete, sometimes with considerable gastritis, but usually the remaining tissue of the wall of the stomach is not greatly changed. Aschoff, from studies of material obtained at necropsy on soldiers killed in battle, reported finding in many cases of extensive, more or less general gastritis. He suggested that this condition might be the cause of ulcer.

According to the reports from European clinics at present, clinicians and surgeons are seeing many cases of extensive gastritis; usually there are one or more associated ulcers. They feel that the inflammation in the tissues is the primary etiologic factor and that the ulcers form secondarily. They report that these patients do not respond to alkalinization, rest, and other methods of treatment; that they cannot be cured by any type of conservative operation, and the only plan that offers permanent relief is a radical operation which removes all of the greatly thickened and inflamed gastric wall. I believe that if we were dealing with the same type of cases in this country, we would probably feel as they do about the treatment.

In a study of the pathogenesis of ulcers there are many factors to take into consideration; (1) ulcers of the stomach and duodenum are separate and distinct lesions; (2) the problem of their origin has been studied from the clinical, experimental, anatomic, and pathologic points of view, and (3) the approach to such a study is difficult, particularly experimental study, because these lesions are peculiar to man. Cohnheim divided the problem into two parts: the cause of the original defect, and the cause of chronicity. This division of the problem simplifies it in some ways. That an acute ulcer may become chronic is a reasonable assumption. Nevertheless, it is an open question whether the occurrence of chronicity involves fundamental principles other than those which are concerned in the origin of the original defect.

Certain observers believe that ulcers are the issue of the combined action of localized vascular disturbance with focal nutritional changes and the digestive action of the gastric secretion on the devitalized tissue.

The characteristic peptic ulcer in human beings is usually situated on the lesser curvature of the stomach, in the pyloric mucosa, or just distal to the pylorus in the duodenal mucosa. It thus occurs in the region of the gastro-intestinal tract which may be exposed to an acid medium and on which the gastric contents may impinge with considerable force during the passage of food from the stomach. These two considerations form the basis of Mann's investigations of peptic ulcer.

Previous investigations have shown that it was difficult or impossible constantly to expose the gastric mucosa to acid medium by administering acid. It was thought this might be brought about by eliminating the secretions

*Read before the Vermont State Medical Society, Rutland, Vt., October 8, 1931.

†Judd—Head of Section Surgery, The Mayo Clinic. Professor of Surgery, The Mayo Foundation. For record and address of author see "This Week's Issue," page 30.

poured into the duodenum beyond the pylorus which tend to neutralize the acid that has not been neutralized in the stomach. Such elimination has been accomplished by various types of operations on experimental animals, but the most satisfactory method for producing subacute or chronic peptic ulcer is to perform duodenal drainage, as has been done by Mann. This procedure causes the gastric contents to be expelled from the stomach into the jejunum without being mixed with secretions poured into the duodenum. Peptic ulcer develops in almost every animal in which the procedure is carried out. The ulcer that forms in these experimental animals is almost identical with that seen in the stomach or duodenum in clinical cases. The lesion is always of the crater type. Ulcers can be produced in experimental animals with greater regularity with this experiment than in any other way that I know.

Bollman and Mann, in their experimental researches on the liver, found that duodenal ulcer forms, following partial hepatectomy or the establishment of Eck fistula, and in some instances after ligation of the common bile duct. These lesions occurred sufficiently often to interfere considerably with the experiments on the liver. In many instances the ulcer perforated and the animal died. It is possible that trauma is a factor in the production of some of these lesions, but in others it probably has no influence. Whether chronic ulcer of the duodenum may be brought about by some disturbance of function of the liver is an interesting speculation.

According to the neurogenic theory, ulcers are the result of disturbance of the vegetative organism. Nervous factors produce spasms either of the muscles or of vessels in localized areas, with resulting mucosal defect. Such defects produce further nervous irritability and thus favor chronicity. There are many clinical facts which suggest that the neurogenic theory must be given consideration. In our clinic within the last few years, we have been able to control absolutely symptoms of ulcer by the use of sedatives. Patients having rather marked symptoms of ulcer with high gastric acidity have been entirely relieved of symptoms by the use of luminal and similar remedies. A patient with high gastric acids and very severe symptoms may obtain complete relief from one or two doses of luminal. One or two cases have been observed in which the acidity returned to normal. Of course this treatment cannot be followed continually, but it indicates that the nervous system must be a considerable factor in certain cases.

Konjetzny's theory of the inflammatory origin of ulcer is based on gross and microscopic study of tissue removed at operation. It has been observed that all the stages from simple erosion to chronic ulceration may be found in a single resected specimen. It is this type of lesion that is so prevalent in Germany and Austria at present.

In cases of duodenitis, the lesions resemble closely those produced in animals by injecting specific strains of streptococci. These strains have been recovered from tonsils and infected teeth of patients with ulcers in the duodenum and also from duodenal inflammatory tissue removed at operation. Although an ulcer strain of organism has frequently been obtained, chronic ulceration in the stomach or duodenum has practically never been reproduced with the organisms. If animals are inoculated with these strains, a large proportion shows what might be termed as acute or subacute ulceration in the stomach or duodenum, but these lesions usually heal promptly and within a few days there is no sign of ulceration. I do not believe this means that we should disregard foci of infection in cases of ulcer. It is difficult to say whether any of these patients are cured by removing the foci of infection, but nevertheless the evidence is too great to be disregarded, and every patient with ulcer, whether operated on or not, must have attention to infected teeth, tonsils, sinuses, prostate gland and so forth.

DUODENITIS

I wish to emphasize a point I have made on several occasions, and that is, the prevalence of localized duodenitis as the cause of symptoms in the cases observed in this country. I feel certain from my daily observation of such patients, that this type of lesion is the one most commonly encountered. It usually covers a small area, is situated close to the upper edge of the duodenum and about 2.5 cm. or less below the ring of the pyloric muscle. The inflammation frequently extends upward to the upper edge of the duodenum and not infrequently passes around to the posterior wall; in some cases, the entire circumference of the wall of the duodenum may be involved. Although this condition is spoken of as ulcer, there is often no real break in the mucosa, even in the presence of profuse bleeding. Microscopic sections of the tissue show the usual evidence of inflammation with much round-cell infiltration and edema. Often the duodenal wall is not perceptibly thickened, and many times it seems thinner than the normal wall of the intestine. Time and experience with these cases have proved that this lesion of localized inflammation is not just one stage of what is later to become a true crater ulcer. Frequently there is considerable duodenitis associated with an ulcer, but still more often the duodenitis is the principal part of the lesion and ulceration is not present. In some cases, ulcers may be found microscopically in these areas of inflammation when they are not apparent grossly.

CLINICAL FEATURES

The diagnosis of duodenal ulcer is usually readily made from the clinical history and then confirmed by roentgen-ray examination. One of the interesting clinical features is the seasonal

nature of the complaint. It is difficult to understand how a patient will have all of the clinical symptoms during the spring and autumn, which are not easily controlled with most rigid treatment, and then within a few days, have complete freedom from symptoms. During this period of freedom he may be quite indiscreet about his living and his diet, and still not have any return of symptoms. Looking at this from the standpoint of the lesion itself, it certainly is not reasonable to assume that the ulcer healed during the period of remission. It also seems difficult to explain this on the basis of the nervous system.

As I have said, it seems to me that more patients with bleeding ulcer have been seen during the last few years than formerly. Bleeding from these lesions is often severe and may place the patient in a serious condition, although loss of life from such bleeding is very unusual.

Rivers and Wilbur have recently completed a study of the diagnostic significance of hematemesis. They reviewed 668 case histories. In 235 of the cases operation had not been performed, but the diagnosis had been made after careful clinical investigation. In 432 of the 668 cases, surgical exploration was carried out. They noted that duodenal ulcer alone was responsible for hemorrhage in half of the total number in this series of cases, and gastric ulcer was responsible for only 6.4 per cent. Carcinoma was the cause in less than 13 per cent. They feel that the source of the hematemesis can usually be determined with accuracy if data obtainable through a detailed anamnesis, careful general examination, and laboratory studies are evaluated cautiously. They also feel that indigestion and hemorrhage usually mean an intrinsic gastroduodenal lesion.

TREATMENT

The final word concerning gastric and duodenal ulcer has not yet been spoken. The multiplicity of hypotheses advanced to explain their origin indicates that many factors play a part, differing perhaps in each case. In the presence of conflicting views, regarding the origin of ulcer, different forms of treatment are justified only on the basis of experience. A sharp line must be drawn between gastric and duodenal ulcer. The problem of carcinoma enters into the consideration of gastric ulcer. No matter how small a percentage of gastric ulcers are malignant or will become malignant, this possibility adds to the seriousness of the disease. Carcinoma almost never occurs in the first portion of the duodenum, so that the question of malignancy need not enter into consideration in the treatment in these cases. Many duodenal ulcers heal permanently under medical treatment. Any one with a duodenal ulcer is entitled to a trial of this type of treatment, and to continue with the regimen so long as it is helpful. It is not a good plan to operate when the lesion is bleeding. If the patient has had one hemorrhage only and is free from symptoms at the time of the examination, it is not necessary or advisable to operate immediately. If he has a recurrence of symptoms, then an operation may be indicated. If it becomes necessary to operate, particularly because of repeated severe hemorrhages, it is imperative to remove the ulcer if it can be done thoroughly by local excision, removing part of the muscle of the pyloric sphincter. If this cannot be accomplished because of the local condition, then it is advisable to resect the stomach with the ulcer if possible. The local operation of excision of ulcer, with the cap of the duodenum and a considerable part of the pyloric sphincter, completing the operation as a gastroduodenostomy, is the operation of choice in all cases of ulcer of the duodenum and in ulcers on the gastric side near the pylorus. The radical operation is preferable in cases of gastric ulcer, particularly if there is considerable associated gastritis. Gastroenterostomy gives satisfactory results for obstructing ulcer in the duodenum of patients past middle age. There is sure to be complete relief of symptoms, with little probability of the formation of secondary ulcers.

A person who has once had an ulcer must always be considered as having an ulcer potentiality. Although it is not necessary for him to hold too rigidly to dietary restrictions, nevertheless at any suggestion of a return of his former symptoms, he should be very cautious about his diet and activities. If he is willing to conform, there is no reason why he cannot be made comfortable and live a very useful and active life; if he does not follow this plan, the recurring trouble is likely to be much more difficult to control than the original trouble.

REPORT OF LEGISLATIVE COMMITTEE, 1931

THE Legislative Committee of the State Medical Society started with enthusiasm and high hopes for much accomplishment; continual conscientious plugging will bring results. The economic situation seems to be a renaissance of the old game of survival of the fittest. The committee was unanimous in the belief that there is considerable constructive work open for accomplishment in a more satisfactory equation between the insurance carriers, commissioner of industries, and physicians.

With this end in view, we started by calling a meeting on November 11, 1930, which was held at the Traveler's Rest on the Montpelier road. Commenting on this, Dr. Ricker wrote: "Any action that the society might take alone would be

subject to interpretations based on selfishness and misunderstanding. If the insurance companies can hear us, and we can hear them, I believe a great many of existing difficulties will be removed." A letter was written to seven representatives of national insurance companies:

"The Legislative Committee of the Vermont Medical Society is contemplating holding a meeting in the near future either in Montpelier or Barre, Vermont. At this meeting it is probable that the question of medical service in compensation work will be considered. Therefore, it has been suggested that representatives of the principal Insurance Companies carrying Compensation insurance in the State of Vermont be invited to meet with this Committee, enjoy supper together and informally discuss the medical aspects of compensation work. This will enable the insurance carrier to present his point of view and the medical man as well. The end in view, is, that through a mutual discussion of the above noted question, a better understanding may be reached.

"Will you please write and give us your opinion regarding the above meeting, and state whether you can be present?"

The secretary arranged a bounteous Italian dinner, including venison and all the fixings. Those present included Drs. Cram, Lane and Wark; Messrs. Wynn of the Aetna, Cram of the Maryland Casualty, and Hall of the Travelers. The insurance men recommended to the medical society that more prompt attention be given in making reports of accidents, presenting a more thorough description of the injuries, including the status of the case at the time of the accident, and the estimated period of disability. The insurance representatives are anxious to have your committee convey to the State Medical Society their willingness to coöperate in every way, and feel that the constructive course would be to meet at least once a year to discuss problems that arise.

In discussing charges for medical services, in the way of criticism, it was brought to the attention of the legislative committee, that an unfair practice existed in a Vermont industrial center where one-fourth of the population is served at far lower rates than those charged by the insurance companies and recognized by the State Medical Society. The insurance carriers cannot understand why the Medical Society does not live up to its agreement of charges, by allowing one-fourth of the population of Barre to be treated for $.25 to $1 a visit. The insurance people feel that the medical fraternity should stand by its principles and not temporize with organized minorities. The conditions in Barre are chronic, and while there is a remedy, they cannot always be entirely ignored without some danger of appearing to approve by silence. Insurance companies are competitors. Oftentimes the company giving the best rating gets the business. By having a standard recognized state medical schedule of fees, it is easier for the insurance company to quote prices and pay for medical service charges recognized as standard by the State Medical Society.

The insurance companies are willing to pay for medical and surgical supplies in addition to the actual service rendered in cases treated outside of the hospital. If cases are treated at home, the insurance would pay for necessary nursing up to $150 for the first 30 days. In other words, Section 5784 might be interpreted as requiring that employers shall furnish reasonable hospital (or home) services and supplies. A case has never been passed on by the commissioner of industries as to whether a home attendant is entitled to compensation for services rendered. All agreed that the wording of Section 5784 should be clarified. After much confusion with the present commissioner's interpretation of Section 5784, he has reverted to the custom established by former Commissioner Buttles, who interpreted disability as medical disability. Commissioner White has clarified this in his ruling in the case of J. A. Wark and John Rock vs. E. N. Rock & Sons and the Granite Manufacturers Mutual Indemnity Co. He states: "Therefore, the first day of the fourteen is the first day the injuried saw a doctor—and the period ends fourteen days later."

One of the older Chittenden County medical men, who is supposed to be well informed, told the legislative committee that the medical profession had never been able to spin a thread in the legislature of this state. This was not very encouraging, and we were glad to be present at a meeting, as the legislature convened, where organized labor was represented, in addition to the Americal Legion, Commissioner of Industries, senators and representatives of Washington County. Labor was looking for increased benefits under Section 5784, and a change in Section 5802. Labor was very keen to have section 30 of the Massachusetts Workmen's Compensation Act substituted for Section 5784, especially the provision which allows the employee to select a physician other than the one provided by the insurer. Commissioner White recommended to the workmen a proposition which was introduced by Representative Wishart of Barre, H-206, amending Section 5777. Drs. Cram and Lane were both opposed to this because "it tends toward State medicine, it increases the cost, and would soon create a new service of graft" (Cram). Dr. Lane thought this was not altogether advisable, and allowing a workman to have a physician of his own selection is a "two-edged sword" because it may lead to the employment of Chiropractors, Osteopaths, Christian Scientists, and any other cult. Senator Adams of Washington County was instrumental in putting a rider on bill S-42, which made it useless for both workman and physician. The Senate amended it so that the physician would have to be approved by the carrier. Bartlett's amendment changed the Senate amend-

ment so that the physician chosen by the workman would be subject to the approval of the Commissioner of Industries, which was accepted by the House without discussion by a vote of 159 to 16. Finally the House and Senate committee on Labor and Commerce could not agree, and Representative Bartlett of Montpelier was asked to have the bill thrown out, because the passing of the bill, as amended by Senator Adams, would legalize exactly what the medical profession and the workmen did not wish; so in this respect the legislative committee accomplished something by blocking detrimental legislation.

Bill S-41 was accepted and passed under act No. 64 which changes the time of the "award setting forth his findings of fact" within 60 days instead of six months.

The Legislative Committee informed some of the state medical officers from time to time as to progress. The help which we received was nil. When the other fellow's ox is gored, it makes a difference.

Bill, H308, relating to malpractice and the limitation of time within which certain tort actions may be commenced, aroused immediate response from every corner of the state. Telephone wires from all directions were kept hot and this bill was promptly and properly rejected. The Barre Hospital Staff met and formulated objections to the malpractice bill. Some of these objections were:

Protecting an estate—tort action and tort die with the defendant unless judgment is rendered before decease.

Class legislation—Others let go free. Something may develop which is the natural course of events but the patient thinks otherwise.

Poor material to work on—a carpenter would throw out the material and refuse to work on it.

Records may be entirely lost (house burned, etc.). Witnesses deceased.

If anything indicates malpractice it will appear within one year.

Improvements in technique and medical education—what is standard today may be changed next month.

Patient may have difficulty in differentiating the results of injury and illness, for treatment.

Fraud on part of the patient in regard to subsequent injury, illness, or natural deteriorating process—interested financially as well as physically.

Physician bound to continue old-established treatment rather than recommend new tried and proved methods.

Increase cost of physicians' medical liability—and eventually must be paid by patients.

Affects dentists as well as doctors.

Fees are outlawed in six years, why allow patient to sue?—no fees, no suit.

Unusual to punish a man or class of men forever—is this not contrary to common law?

Charity house cases should not be allowed to sue.

The Optometry bill 1205, as amended, is apparently satisfactory and gives fairly good protection to the public, and probably does not infringe on regular eye, ear, nose and throat men.

The bill on naturopathy was not presented.

There was much opposition by Senator Olney of Rutland, who is also secretary of the Vermont industries. Daily lobbying was done by McAllister of Barre, Treasurer of the Granite Mfg. Mutual Indemnity Co. The committee was warned that Olney would oppose anything and everything that would mean any increase in the insurance rate. There were two public hearings in the Senate Chamber, the medical society and labor were represented by Carver and Conway, who also spent considerable time lobbying. Your secretary worked a good many hours in the interest of the State Medical Society. I would like to repeat the paragraph taken from a letter of March 28, written to the members of the Legislative Committee and other state officers:

"At this time, I would like the opportunity of presenting my views regarding lobbying for the protection of the Medical Society through unjust legislation.

"I have found that all associations of any importance which have found it necessary to lobby retain one or more representatives at the State House constantly during the session of the Legislature for the purpose of learning immediately when any legislation concerning them is introduced. I believe if we had continuous representation in the State House, then such legislation as the matter at hand could be stopped before it had attained any considerable headway. While such a policy would be somewhat expensive, at the same time it is the only practical way to thoroughly protect our interest."

There have been many inaccurate statements and much loose talk in regard to the cost of medical care. The cost has not increased out of proportion to the increased cost of other services. Medical care has been expanded and amplified and this necessarily increases the cost. "State medicine", as used to identify a system whereby the Government, Federal, State or municipal, undertakes to assume responsibility for affording medical and surgical care to every citizen at no cost to the citizen, is a "miserable makeshift", un-American, ultra-paternalistic and destructive of self-respect in both doctor and patient. An exaggerated sense of ethics makes many physicians shrink from anything like business organization, yet such organization is essential if State medicine is to be prevented. Proper organization of county and State medical societies will make state medicine impossible and enable a physician to retain his self-respect. We speak of the organized medical profession, but its organization is little more than provision for periodic meetings for the reading and discussion of papers on scientific subjects. Organization on a business basis, provision of clinic facilities, regulation of fees on a sliding-scale basis according to income are essential if state medicine is to be prevented. The business

side of the Society's real obligation is to establish facilities for the best preventive medical and surgical advice and treatment at a price that each citizen can afford. This is entirely neglected. The best modern medical care is worth all that you pay for it, providing you can afford the cost. The medical care, especially early diagnostic investigation and treatment, has been expanded and amplified by the discovery of more precise methods of diagnosis, and has become exceedingly complex. This necessarily increases the cost of an examination as compared with that of forty years ago, when a physician used only his own senses and, perhaps a stethoscope. There must be a decentralization of modern diagnostic and treatment facilities from the large cities and medical centers to the small cities.

If the authority is broken down, the organization is deprived of all power to be effective. It is our business to have confidence in our officers. We elected them. "A party which temporizes, which compromises itself, which surrenders to opportunism, which deserts its leaders, even if it wins a temporary victory, will find little but discredit in its success." The final outcome is vested in the representatives of the Society, and we look to the executives for firm and sound action.

The Legislative Committee recommends to the State Society that it should have an understanding of fees to be charged insurance companies, for written reports of physical examinations where a doctor is sent to make an examination.

Also, a fee for giving an opinion to insurance representatives upon the presentation of a written permit from the interested patient.

A fee for giving information by telephone, or otherwise, to a lawyer making investigation for life insurance companies, and only when the lawyer or agent presents a signed permit from the interested party under investigation. The lawyers are practically helpless without our coöperation, and they are paid well by wealthy insurance companies for their services. Why should the medical profession be imposed upon by not being well paid?

The members of the Legislative Committee have talked with several lawyers regarding the loose method of business as permitted by the State Medical Society, and they are unanimous in saying that they would be glad to pay for such services. They recommend that if the Society will come to a definite understanding and give at least the specific minimum charges for such work, that then they will be able to quote prices for such services to an insurance company before such service is rendered.

The Legislative Committee recommends minimum charges of $10, $10, and $3 respectively for this work.

The Legislative Committee wishes the State Medical Society to specifically approve or disapprove the conduct of a doctor sitting in court to coach legal representatives of the opposite side in forming medico-legal questions to disconcert a colleague.

The Legislative Committee recommends a minimum charge of $25 for testifying in court for automobile liability, or other cases that are involved.

MISCELLANY

VERMONT DEPARTMENT OF PUBLIC HEALTH

NOVEMBER, 1931

The list of communicable diseases reported to this Department during the month of November is as follows: chickenpox 253, diphtheria 30, measles 141, mumps 53, poliomyelitis 8, scarlet fever 44, smallpox 75, rabies 1, undulant fever 1, whooping cough 277 and tuberculosis 15.

A total of 2,043 examinations have been made in the Laboratory of Hygiene, classified in the following manner:

Examinations	
For diphtheria bacilli	837
For Widal reaction of typhoid fever	27
For tubercle bacilli	160
For evidence of syphilis	403
For gonococci in pus	196
Of water, chemical and bacteriological	49
Of water, bacteriological	165
Of milk, market	113
Of milk, submitted for microscopical only	1
Of milk, submitted for chemical only	3
Of foods	3
For the courts, autopsies	3
For the courts, miscellaneous	22
Of animal heads for evidence of rabies	2
Miscellaneous	57
Autopsies to complete death returns	2

Fifty-six new cases of gonorrhea and 35 new cases of syphilis were reported to the Division of Communicable Diseases. This division sent out 442 Wassermann outfits and 276 gonorrheal slides.

The Division of Poliomyelitis After-care saw 123 patients, 119 in their homes, three in Boston and one in Burlington. Thirty-five doctors were visited, two plaster casts removed, 27 pieces of apparatus fitted, 39 orthopedic corrections made to shoes, 13 pieces of apparatus mended or altered. The vocational work of this Division reports sales amounting to $156.64.

ADDISON COUNTY MEDICAL SOCIETY

A meeting of the Addison County Medical Society was held at the Porter Memorial Hospital, December 23, 1931. Nine members and several guests were present. Dr. Dalton of Burlington gave an address on Undulant Fever, of which there are two cases in Middlebury. The address was followed by questions and discussion in which all vigorously participated.

ESTELLE FOOTE, M.D., *Secretary.*

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 18011

FOUR MONTHS' COUGH AND WEAKNESS

MEDICAL DEPARTMENT

An American railway yard foreman fifty-one years old entered August 6 complaining of cough and weakness of four months' duration.

Sixteen months before admission he was ill in bed for five weeks with "bronchitis". He had severe harsh cough productive of perhaps half a pint of greenish yellow sputum daily. There was some loss of weight. At the end of five weeks the cough stopped and he resumed work with no ill effects. Four months before admission he had another attack of bronchitis of sudden onset incapacitating a previously healthy man. He was in bed for a week and a half and away from work three weeks. The cough was not very severe. When he resumed work at the end of the third week the cough persisted and became worse. He noticed also that he was unexpectedly weak. His symptoms rapidly grew more grave. After working three weeks he had to give up because of weakness and loss of weight. About June 15 he raised a teaspoonful of blood on coughing. Since that time his sputum had been persistently blood tinged, especially in the morning; grossly bloody, often with clots, later in the day. There had never been copious hemorrhage. With the onset of the bloody sputum he began to have profuse night sweats. Since the first of July he had had palpitation, pain in the right side of the chest even with shallow breathing, at the base of the neck on the right, shooting behind the right ear and across the chest to the left, and orthopnea. Since July first he had had loss of appetite and pain in the chest. Since the onset of the illness his weight had fallen from 145 pounds to 126 pounds. A specimen of the sputum examined by the local Board of Health was negative for tuberculosis. He went to the country for fresh air and sunshine, living in a small camp and leading an out-of-door life. As he continued not to improve, his right chest was tapped twelve days before admission and about a pint of straw colored fluid was withdrawn. After this he had increasing dyspnea and weakness and felt choked up again. A physician gave him presumably a strong narcotic mixture which he had used with marked diminution in frequency of the cough and sputum.

One daughter had been suspected by physicians of having bone tuberculosis since the age of two. Her general health was excellent. His wife's first pregnancy had ended in a miscarriage.

He had some smoke hazard daily at his work and lived close to the railway yard so that smoke and coal gas were an annoyance. He had occasional contact at work with a tuberculosis suspect, at the most for twenty minutes a day.

He had had, in general, good health and been a vigorous worker. He had gonorrhea at twenty-two. He had influenza in 1918. He had had burning micturition for seven years, probably not true dysuria. He had passed bright red blood in his stools six or eight times in the past two years, not more recently than six months before admission. He had never had hemorrhoids so far as he knew.

Clinical examination showed a poorly nourished elderly man in no acute distress. The skin and mucous membranes were slightly pale. The cervical, axillary and inguinal glands were enlarged. At the right supraclavicular region was a tumor the size of the end of a thumb, rather fixed and not in the subcutaneous tissue, probably a lower cervical gland. There was a soft subcutaneous tumor over the fifth cervical spine. The heart was not abnormal. There was peripheral sclerosis. The abdomen was negative. The lung signs were as shown in Figure 1. There were bilateral inguinal herniae. The pupils and reflexes were normal. The fundi showed moderate sclerosis and a patch of old retinitis below the left disk. The disks were clear.

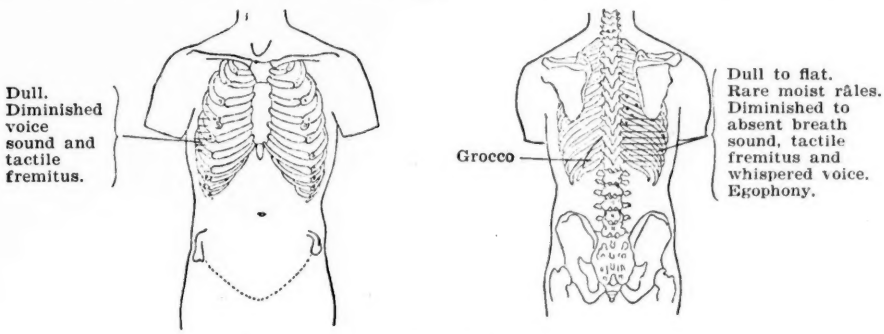

FIGURE 1.

The urine showed a specific gravity of 1.007 to 1.016, rare white blood cells at one of two sediment examinations. Blood examination showed 9,400 to 15,100 white cells, 71 per cent polynuclears, reds 4,420,000. The smear was normal except for reduced number of platelets. A Hinton test was negative. The sputum was negative for tubercle bacilli at four examinations. The stools were negative for gross blood at two examinations; guaiac was negative once. Tuberculin tests, bovine and human, were negative.

The temperature was 96° to 102.7° without wide daily swinging or uniform afternoon rise. The pulse was 75 to 93 with terminal rise to 120. The respirations were 20 to 38.

X-ray examination showed the diaphragm on the left in the usual position, smooth in outline. On the right its outline was obscured by dull-

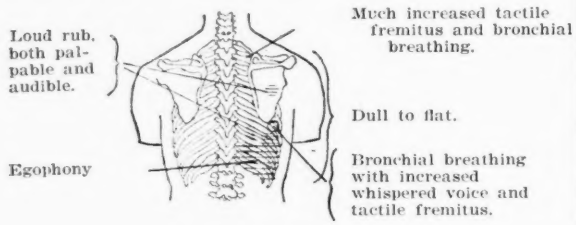
Loud rub, both palpable and audible.
Much increased tactile fremitus and bronchial breathing.
Dull to flat.
Egophony
Bronchial breathing with increased whispered voice and tactile fremitus.

FIGURE 2.

ness which occupied the entire lower two thirds of the lung field. The dullness was homogeneous at the base, mottled in the upper portion of the chest. There was marked thickening of the apical pleura. There was some indefinite mottling at the left apex. The remainder of the left lung field was clear. The right border of the heart was not visualized. The heart did not appear to be appreciably displaced. Examination ten days later showed very little change except displacement to the left. There was possibly some fluid at the left base.

August 7 a chest tap in the eighth right interspace in the posterior axillary line gave 175 cubic centimeters of straw colored blood tinged fluid, specific gravity 1.018, 4,400 red blood cells, 2,100 white cells, 80 per cent lymphocytes, 20 per cent polynuclears, 400 endothelial cells. A guinea pig test was negative. A culture showed no growth.

The patient continued to have considerable cough and occasionally slightly bloody sputum. On August 11 there was a loud friction rub in the right midaxillary line. The other signs were unchanged. By the fifteenth the rub was practically gone. The patient was feeling better, although his appetite was very poor and was not stimulated by insulin. The fluid was reaccumulating. Another tap on August 18 in the seventh and ninth right interspaces posterior to the axillary line gave no fluid.

A chest consultant emphasized the significance of bloody mucoid sputum, only recently purulent, persistent pain since the onset, marked dullness without bronchial breathing and the negative tuberculin, and advised biopsy.

The morning of August 22 the lung signs were as shown in Figure 2. That day a biopsy was done. That night the patient became very weak and dyspneic. The following day he had some pulmonary edema with tracheal râles and a loud friction rub on the right. He gradually failed, became comatose, showed increasing pulmonary edema and on August 27 died.

Clinical Discussion

BY RICHARD C. CABOT, M.D., AUBREY O. HAMPTON, M.D., AND TRACY B. MALLORY, M.D.

NOTES ON THE HISTORY

Dr. Cabot: Half a pint of sputum daily is a good deal.

Only a pint of fluid from the chest is not much.

NOTES ON THE PHYSICAL EXAMINATION

The lung signs are all on the right side. There is nothing at all on the left side so far.

I should call that practically normal blood.

Positive tuberculin tests are not very important. Many healthy people have them from obsolete foci. Negative tuberculin tests, however, are important evidence.

Dr. Hampton: Here is the first film, taken on the seventh of July. According to the record the whole two thirds of the right lung is dull. The dullness is not quite so homogeneous as one might suppose from the note. We can see some air down along the axillary line. This is a peculiar type of dullness radiating upward unilaterally from the lung root. The diaphragm is not visible on the right and is irregular on the left. The pleura at both apices appears quite thick, about an inch in width on the right. The heart is displaced slightly toward the right. With that shifting of position of the heart and that type of dullness one would suppose that the right lower lobe and perhaps the middle lobe were collapsed. The character of the dullness is not actually typical, but it is often seen in an infiltrating lesion. We get a faint suggestion of a deeper mass at the right lung root, but I think it is not plain enough to be sure of. There are no masses at the left lung root. I do not see the soft tissue shadows described in the neck.

This is a film taken ten days later, after tapping. The only change is increase in the width of the faint line which could be either a thickened pleura or a thin layer of fluid. The heart is in exactly the normal position in this film.

Dr. Cabot: I take it that unless the examination of the gland is negative we shall all think of malignant disease, in view of the fact that he had blood tinged sputum. There is nothing inconsistent with that diagnosis in these films?

Dr. Hampton: No.

Dr. Cabot: Of course if this is malignant

disease we are looking for bloody fluid in the pleura. If this blood tinged chest fluid was not an admixture from the tap wound that is important. That is a high gravity chest fluid such as we see ordinarily only in malignant disease and in tuberculosis. Such a gravity is not ordinarily found in the transudates which we get in heart troubles or kidney troubles. As we have pretty strong evidence against tuberculosis, this supports the hypothesis of malignant disease.

The chest consultant advised biopsy, which means that he favored the same diagnosis we have been making.

I take it those lung signs on August 22 are about the same as the findings in the second x-ray.

DIFFERENTIAL DIAGNOSIS

Nobody dies of ordinary serous pleurisy. We do not need to consider that. He has been tapped, so we know it is not empyema. He could not have died of that. He had a good deal of purulent sputum, but the x-ray and the other signs are not at all those of bronchiectasis. We have had, I think, conclusive evidence against tuberculosis. We have no good reason to suppose that he had pneumoconiosis, and the signs are much too unilateral for that. Syphilis of the lung we know nothing about and we have to exclude it because there is nothing in particular known about its pathology. There is nothing that I see against the diagnosis of malignant disease of the lung. It would account for every fact we have here. I do not see any other diagnosis to make. He could not have died of massive collapse. There is no shift of the heart, as there usually is with that. We have not the clinical picture of chronic pneumonia, which is a real thing. I have mentioned all the things I know of in this climate causing signs like this and it seems to me that malignant disease of the lung is the only thing we can say.

A STUDENT: What about the blood in his stools?

DR. CABOT: I do not know what to say about that. I should not think it likely that there was any primary tumor or any metastasis in the intestinal tract. There are no functional symptoms on the part of the intestinal tract. I shall have to say I do not know the cause of that blood.

A STUDENT: What was the most conclusive evidence there against tuberculosis?

DR. CABOT: First the negative tuberculin tests; second, four negative sputum examinations; third, the character of the x-ray lesions.

DR. MALLORY: Also the guinea pig test of the fluid.

A STUDENT: Is it very unusual to get a negative tuberculin test in human beings with miliary tuberculosis?

DR. CABOT: No, or even with a very extensive non-miliary tuberculosis in the presence of an overwhelming infection the tuberculin test may be negative.

A STUDENT: Is it possible to have a tuberculous chest fluid with no bacilli in it?

DR. CABOT: Yes.

A STUDENT: Could Hodgkin's disease cause tumor in the lung?

DR. CABOT: Yes.

A STUDENT: But it would be probably bilateral?

DR. CABOT: Yes; it gives us tumors coming out from the lung root and elsewhere besides in the chest.

A STUDENT: Do you think the temperature is high for malignant disease?

DR. CABOT: I suppose that in this case there is blocking of a bronchus, larger or smaller, and some infection connected with that. That would be enough to account for the temperature.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Carcinoma of the right lung.

DR. RICHARD C. CABOT'S DIAGNOSIS

Malignant disease of the right lung.

ANATOMIC DIAGNOSES

1. *Primary disease.*

   Carcinoma of the right main bronchus and the right lung.

2. *Secondary or terminal lesions.*

   Abscesses of the lung.
   Arteriosclerosis.
   Benign polyps of the intestine.

PATHOLOGIC DISCUSSION

DR. MALLORY: We found a cancer of the bronchus to the right lower lobe, with very extensive infiltration of the major part of the right lung with cancer. We were unable to separate the middle and the lower lobes. The two were bound together in a solid mass of tumor. Only the upper lobe remained free. The pleural cavity also contained large tumor masses between which were encapsulated spaces filled with a relatively clear fluid. I think it was probably one or more of those spaces that had been tapped when he first came in. Beyond the tumor were a few very small abscesses in the lung, as is not uncommon in these cases.

The only other findings here were a moderate degree of arteriosclerosis and several benign polyps in the large intestine which might have accounted for the blood in the stools.

A STUDENT: What did the biopsy of the gland show?

DR. MALLORY: The gland showed metastatic carcinoma.

CASE 18012

A PROBLEM IN THE ETIOLOGY OF URINARY RETENTION

Urological Department

PRESENTATION OF CASE

Dr. E. Ross Mintz*: *First admission.* The patient was a male sixty-four years old who entered the hospital for the first time eighteen years before his second admission complaining of increasing weakness, numbness and a sensation of "pins and needles in both legs", more marked in the left leg. Incontinence of feces of two weeks' duration was another complaint. Physical examination was negative except that the reflexes of the lower extremities were totally absent and superficial sensations were moderately disturbed. Laminectomy was done by Dr. Mixter and a tumor was found situated between the twelfth thoracic and the first lumbar vertebrae. Part of the growth was extradural and part intradural. The pathologic diagnosis was fibromyxosarcoma. The patient was discharged after an uneventful but rather slow convalescence.

Second admission. He entered the Emergency Ward eighteen years later complaining of swelling of the legs and external genitals of one month's duration.

He stated that one month previous to entry he had a severe attack of nocturnal dyspnea. He was unable to lie down because of shortness of breath. During the attack he had epigastric pain and vomited some bitter material. He noticed that his heart was irregular during the attack. The day following the attack his legs, scrotum and penis began to swell. He said he had had two similar episodes during the past month. A week before admission he was seen in an outside dispensary, where a diagnosis of probable right renal tumor or possible hydronephrosis was made.

Physical examination showed a well nourished, rather anemic, dehydrated man lying in bed in no apparent distress. The heart was enlarged to the left. The apex beat was 14 centimeters to the left of midsternum in the sixth interspace. The heart sounds were regular. There was a long systolic murmur at the apex and a short harsh systolic murmur at the second right interspace. The blood pressure was 165/65. The pulse was strong, regular and bounding. The lungs were resonant throughout. There were some coarse râles at both bases. The abdomen was distended. A soft round mass was felt in the right upper quadrant; this mass disappeared while the patient was in the ward. There was no costovertebral tenderness. The bladder was markedly distended and at the level of the umbilicus. The patient had urinary incontinence. There was pitting edema of both extremities and edema of the scrotum and the penis. There was a large trophic scar over the sacrum. Rectal examination disclosed a smooth, symmetrical, resilient prostate about twice the normal size. It was benign in character. The right leg reflexes were absent except the plantar, which was normal. The knee jerk on the left was hyperactive. The left plantar reflex was normal.

The non-protein nitrogen was 125. The red blood cell count was 1,900,000, the hemoglobin 45. Smear showed 90 per cent polynuclears. A Hinton test was negative.

A dorsal slit was done in the Emergency Ward and the patient was admitted to the ward after careful decompression of the bladder (8 ounces each hour). The catheter was removed during his transfer. Twelve hours later the catheter was reinserted and the entire vesical contents were removed. The following day hematuria developed. For the next two days the patient did fairly well. The medical men saw him and suggested digitalis, which we gave him. The following night he had several attacks of nocturnal dyspnea, but seemed to weather the storm. In the morning however another attack occurred. Five minutes later the patient was dead.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Arteriosclerotic heart disease.
Cardiac decompensation.
Uremia.

ANATOMIC DIAGNOSES

Hypertrophy of the lateral lobes of the prostate.
Scar of old operative wound, laminectomy for the removal of a tumor of the spinal cord.
Old fracture of the second lumbar vertebra.
Recurrent tumor in the region of the scar, probably perineurial fibroma, possibly ganglioneuroma.
Urinary retention.
Dilatation of the kidney pelves.
Hemorrhage into the bladder.
Hypertrophy of the heart.
Arteriosclerosis of the aortic valve.
Atheroma of the coronary arteries, slight.
Acute edema of the lungs.
Chronic passive congestion of the liver.

Pathologic Discussion

Dr. Mallory: I am sorry Dr. Mixter is not here to discuss the case.

This man had a number of pretty important lesions. One of them was a very much enlarged heart weighing 550 grams with a moderate amount of arteriosclerotic change in the

*Resident on the Urological service.

aortic valve which probably accounts for the systolic murmur heard at that area. The coronaries showed relatively slight atheroma.

The lungs showed a rather marked distention, almost asthmatic in type. Sections of the bronchi show well-marked thickening of the muscular layer, not so marked as in bronchial asthma but corresponding closely with another case of "cardiac asthma" which I have studied.

The liver showed a moderate degree of chronic passive congestion.

Both the kidneys were enormously enlarged, measuring 16 by 13 by 14 centimeters, perhaps three times normal size on each side. The increase in size was due to extreme dilatation of both pelves, the kidney tissue being reduced to a narrow shell.

The bladder was enormous, the wall very much thickened. It was completely filled with a mass of blood clot.

The prostate was quite markedly hypertrophied in both lateral lobes, in the median lobe not at all.

The spinal column of course showed the scarring of the old operation, the laminectomy Dr. Mixter had done. We found a small mass of fibrous looking tissue in the region of the operation which we thought probably represented a slight recurrence of the tumor. It was interesting also that his first symptoms had followed by a period of ten months a fall in which he struck his back. It was not felt at the time that that had anything to do with his difficulty. He did however have a fracture of the second lumbar vertebra immediately below the tumor, so it is not impossible that trauma had something to do with the origin of the tumor.

The interesting feature from our point of view was that obviously he had marked urinary retention. Was it due primarily to the residual paralysis from his spinal cord tumor or to the greatly enlarged prostate, or perhaps, and more probably, to a combination of the two? He had only slight paralysis of the bladder nerves, which had been able to carry him along pretty well for a number of years until the prostate began to enlarge. At the end of that time he was unable to void successfully. The clot in the bladder contained 500 cubic centimeters of blood. That points again to the necessity of extremely careful decompression of the bladder in these cases of chronic retention.

Dr. George W. Holmes: Isn't it rather unusual for a tumor of that kind to remain free from recurrence?

Dr. Mallory: There has been some argument as to just what the tumor was. Dr. Kubik has reëxamined the slide and wonders if it is not a ganglion neuroma. They were certainly wrong in calling it sarcoma. It suggests to me a perineurial fibroma which grew around and included in it some ganglion cells, or actually a ganglion neuroma. I do not believe I can decide between these two alternatives.

Dr. Mintz: We were uncertain whether the anemia was entirely due to a nephritic process or whether it might be due to sepsis.

Dr. Mallory: Both factors might well be involved. We found nothing else to account for it.

Dr. J. Dellinger Barney: I should think the long continued sepsis he had might account for a great deal. It does not seem as though cachexia due to neoplasm could have had anything to do with it.

Dr. Mallory: Certainly not.

NOTE BY DR. W. JASON MIXTER

I remember this patient very well. He was one of my early operations for spinal cord tumor. At operation an oval, firmly encapsulated tumor was found outside the dura. On opening the dura a similar mass was found lying within the dura compressing the spinal cord. I should say that the extra- and intradural masses were of about equal size and about 2.5 centimeters in greatest diameter. I was surprised at the time that the pathologic report was "sarcoma". The tumor gave me the impression of being a benign affair.

The patient made a fairly uneventful convalescence while at the hospital, but still had considerable trouble with his bladder when he was discharged.

I saw him once subsequently in answer to a letter sent when I was looking up these cases. At that time he was still having bladder difficulty, and it was evident from his story that he must have considerable retention. He refused to allow the passage of a catheter at that time. Though I urged it very strongly, he refused to reënter the hospital for further study, including lumbar puncture. I tried to reach him again later, but there was no response to letters which were sent him.

I believe that such a growth, lying as it did opposite the conus, might well give a residual paralysis of bladder and rectum even though there had been practically complete recovery of function in his legs. As I stated before, the tumor was of considerable size and the compression of the conus must have been very marked. The conus is one of the most easily damaged portions of the spinal cord and bladder function is notoriously slow to return when the conus is damaged. It seems to me that we have here a perfectly definite cause for his bladder difficulty which would result in the hypertrophy of the bladder and the hydronephrosis found at autopsy. The prostate, of course, probably acted as a contributing cause, and it was only when the prostate reached a size to give symptoms that he became completely disabled.

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THE DIRECTORSHIP OF SCHOOL HYGIENE IN BOSTON

BY the death of Dr. John A. Ceconi on September 21, 1930, Boston lost a man who, by devoted and intelligent work as Director of the Department of School Hygiene, had laid an excellent foundation for further development in this field. In two previous issues of this *Journal*, October 2, 1930 and March 5, 1931, we pointed to the value of Dr. Ceconi's accomplishment and stressed the importance of appointing a successor who should be able, not merely to keep that foundation in repair, but who should also be qualified, through ability and training, still further to develop the school hygiene program with wisdom and good sense.

A year and three months have elapsed since the death of Dr. Ceconi. During all this time the Directorship has remained vacant because one delay after another has postponed the selection of a successor. The Civil Service Commission has recently certified several candidates who have passed an examination which was given to test their qualifications. It is usually true of any group that one of them is abler or better qualified by training and experience to perform a certain function than are the others. If this be true of the group of candidates who have passed this Civil Service examination, it should be easy to select the best qualified and he should be appointed without further delay. If there is any obstacle sufficient to justify further delay in the appointment of a new Director, we believe that the public is entitled to know what this obstacle is, and to be told how much longer the school children of Boston are to be without the services of a Director of School Hygiene.

BREASTED'S TRANSLATION OF THE EDWIN SMITH SURGICAL PAPYRUS

UNDOUBTEDLY the most important event of recent years, from the point of view of the history of medicine, is the publication of the careful translation of the so-called Edwin Smith surgical papyrus. The history of the discovery of the papyrus is not without interest. Mr. Edwin Smith, an American, went to Egypt about 1858, as a young man of thirty-six who had studied Egyptology both in London and in Paris. He was well grounded in the subject, although he had not published any papers at that time. In January, 1862, during his stay in Thebes, he purchased a document which now passes under his name as the Edwin Smith papyrus. Owing to the fact that this papyrus had apparently been in daily use for many years, the beginning of the roll and at least one column of the book on surgery were in tatters and the individual who had found it while searching Egyptian tombs for salable plunder saw fit to strip off the outside covers, selling only the inner part to Mr. Smith. Two months later, however, Mr. Smith was offered another roll patched up from the rubbish which had been pulled off from the original papyrus. This Mr. Smith also bought, thus recovering a part of the original book which, although fragmentary, contains a discussion of the heart. A partial translation of the papyrus was attempted, but, due to the scanty knowledge of the subject in the sixties of the last century, this translation was far from complete. Mr. Smith stayed in Egypt until 1876, finally bringing the papyrus back to this country and leaving it, at the time of his death, to the New York Historical Society, in 1906. This society requested James Henry Breasted, the eminent Egyptologist, to translate and publish the papyrus, a task which has occupied a large part of his time for the last ten years. The results are two large volumes, the first containing an hieroglyphic transliteration, translation and

commentary, and the second beautifully printed facsimile plates of the original document*. The book is splendidly produced by the University Press of Oxford for the University of Chicago Press; the admirable plates in volume II were done by Emery Walker.

The papyrus has many striking characteristics and practically serves to revolutionize our ideas of the beginnings of medicine. Instead of being filled with recipes in regard to the expulsion of demons from the human system, we here find "for the first time the human mind peering into the mysteries of the human body, and recognizing conditions and processes there as due to intelligible physical causes. The facts in each given case of injury are observed, listed, and marshaled before the mind of the observer, who then makes rational conclusions based upon the observed facts. Here then we find the first scientific observer known to us, and in this papyrus we have the earliest known scientific document" (Breasted). The date is a little uncertain, but the papyrus appears to have been written about 1700 B.C. as a copy of a much older manuscript probably written during the Pyramid Age from 3000 to 2500 B.C. Although, as Breasted points out, it is pure conjecture, it would seem not unlikely that a surgical treatise as important as this, appearing in the Pyramid Age, may possibly have been written by the earliest known physician, Imhotep†. There is no question about the fact that this surgical treatise was an ancient book in 1700 B.C. when the present copy was made, for at that time the transcriber found it necessary to comment upon certain terms used in the original papyrus which were no longer clear to the readers of his generation. Here, for instance, we find the word "brain" first occurring in human speech and it was necessary for the commentator to express his ideas of the term, especially in relation to injury to the brain subsequent to "fractures", "compound fractures" and "compound comminuted fractures", all of which the ancient author carefully explained.

These and many other points show an extended knowledge of injuries to the human body, a knowledge much more widespread than had previously been conceived. It is presumed that this early surgeon gained much of his experience through the treatment of injuries in civil life, as well as from following the army and treating wounds received in battle. In treating injuries he makes the earliest known references to adhesive tape and surgical stitching. Apparently he also practised dissection; he knew of the cardiac system and was surprisingly near recognition of the circulation of the blood. He was conscious of the importance of the pulse and had probably begun to count it. He recognized the importance of the brain and spine as centers of nervous control and made such unusual observations as the fact that in dislocations of the cervical vertebrae seminal emission is likely to take place.

Unfortunately, much of the papyrus is lost to us. The writer had copied only about eighteen columns of the original treatise when, for some reason, he stopped, pausing in the middle of a line and even in the middle of a word. What we have, however, is of the greatest possible interest to us. It consists of twenty-one and a half columns of writing—actual descriptions of surgical cases. The treatise is systematically arranged, beginning with injuries of the head and proceeding downward through the body. Forty-eight cases are recorded. In each case a verdict is given, either favorable, uncertain or unfavorable. One notes that the unfavorable verdict is given fourteen times, thus marking a group of cases which the surgeon cannot cure but which he is led to discuss by his scientific interest in the phenomena disclosed by the examination. The forty-eight cases begin at the top of the head and proceed downward to the thorax and spine, at which point the manuscript breaks off. In each case, on the basis of an examination, the surgeon pronounces his diagnosis and gives the treatment as well as the prognosis. Many mechanical appliances were used by this ancient surgeon, such as absorbent lint, plugs, swabs and tampons of linen in treating injuries to the nose or outer ear, bandages for fractures, adhesive plaster, surgical stitching, splints of three different types, a padded gag for holding open the mouth in a case of tetanus during the administration of liquid food, the cautery and the drill, and simple remedies such as fresh meat applied to the point of an injury, lint saturated with ointment, and hot applications. Thus we find that the surgeon of 3000 B.C. was reasonably well equipped with all the ordinary surgical appliances for the treatment of injuries.

The importance of this manuscript, however, lies not in the technical details noted above, but in the point of view taken by the surgeon toward the human body. He was interested not only in the actual injuries but in every aspect of the effects of trauma and the signs exhibited in any part of the body as a result of a local injury. For instance, he observed crossed paralysis in injuries to the brain, complete paraplegia following a fracture dislocation of the cervical vertebrae and, more important still, recognized that certain injuries which could not be treated were, nevertheless, worthy of scientific observation. To his great credit, he never deviated from a course of the highest scientific endeavor, a point of view well worthy of emulation 5000 years later.

*The Edwin Smith Surgical Papyrus, published in facsimile and hieroglyphic transliteration with translation and commentary in two volumes by James Henry Breasted. University of Chicago Press, Chicago, Ill., 1930. Vol. I, xxiv + 596 pages, 8 plates; Vol. II, xiii pages, 46 plates.

†For an interesting popular account of this earliest known physician see J. B. Hurry, M.A., M.D., *Imhotep, the Vizier and Physician of King Zoser*. Oxford, 1926.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

OSGOOD, ROBERT B. A.B., M.D. Harvard University Medical School 1899. F.A.C.S. John Ball and Buckminster Brown Professor of Orthopaedic Surgery, Emeritus, Harvard Medical School. Consulting Surgeon, Boston Children's Hospital. Member, Board of Consultation, Massachusetts General Hospital. His subject is "The Human and Economic Problem of Chronic Arthritis." Page 1. Address: 372 Marlboro Street, Boston.

ROSS, WILLIAM H. M.D. Columbia University College of Physicians and Surgeons 1888. Consulting Physician, Central Islip State Hospital. Attending Physician, Southside Hospital, Bay Shore, New York. President, New York State Medical Society 1930. President, Suffolk Co. (New York) Board of Health. His subject is "What is Organized Medicine's Attitude Toward Public Health Administration?" Page 6. Address: Brentwood, New York.

TUTTLE, GEORGE H. A.B., M.D. Harvard University Medical School 1891. Graduate Assistant in Diabetic Clinic, Massachusetts General Hospital. His subject is "The Presence of a Distinct Insulin in Depancreatized Dogs After Pancreatectomy." Page 8. Address: South Acton, Mass.

FRANKMAN, WILLIAM. M.D. St. Louis College of Physicians and Surgeons 1921. Formerly associated with the Boston Dispensary and the Boston City Hospital. His subject is "The Significance of a Complement Fixation Test in the Diagnosis of Gonorrhea." Page 11. Address: 1325 Commonwealth Avenue, Boston.

KEELEY, CHARLES F. B.A., M.D. University of Vermont 1923. His subject is "The General Practitioner on the Witness Stand." Page 12. Address: Claremont, New Hampshire.

FRENCH, H. T. B.S., M.S., M.D. Rush Medical College 1921. Assistant Professor of Anatomy, Dartmouth Medical School. Staff Physician, Mary Hitchcock Memorial Hospital. Address: Hanover, New Hampshire. Associated with him is:

BOLSER, C. E. A.B., A.M., Ph.D. Professor of Physiological Chemistry, Dartmouth Medical School. Address: Hanover, New Hampshire. Their subject is "Diets in Pregnancy in Relation to Low Blood Serum Calcium Values at Lactation." Page 14.

JUDD, E. STARR. M.D. University of Minnesota Medical School 1902. F.A.C.S. Head of Section Surgery, The Mayo Clinic. Professor of Surgery, The Mayo Foundation. His subject is "Ulcer of the Stomach and Duodenum." Page 17. Address: Rochester, Minnesota.

MISCELLANY

A RADIO MESSAGE PREPARED AND SPONSORED BY THE COMMITTEE ON PUBLIC EDUCATION OF THE MASSACHUSETTS MEDICAL SOCIETY FOR THE DEPARTMENT OF PUBLIC HEALTH

PASTEURIZED OR RAW MILK*

Milk contains more of the substances used by the body for growth and nourishment than any other single article of diet. If one were asked to write out the materials that should be included in an ideal menu, from the point of view of nutrition he could more than half complete the task by using this single item. Milk is not only the most valuable food for infants and children, but is an important food for all of us, entering as it does into the preparation of almost every meal we eat.

Milk, however, may also be a very dangerous food if it is not properly handled, for it is known to have carried typhoid fever, tuberculosis, scarlet fever, septic sore throat, diphtheria and other diseases. It may carry these diseases by becoming infected by them. And it may become infected by them in the most cleanly surroundings if it is handled carelessly by a person who is either suffering from the disease or is a "carrier" of the disease. Of course it is possible to recognize most of these disease-carrying persons by thoroughly examining them, and they are often so recognized and thus prevented from infecting the milk which they handle. On the other hand such persons may unwittingly employ themselves in handling milk, or may unknowingly become infected while they are handling milk, and thus infect many people before their condition becomes known to themselves or to others.

There are several grades of milk, by which the product is standardized. The butter fat content, the total solids, and other measurements of a chemical or physical nature can be readily made. In this way the producer can be paid for the care and cleanliness with which he keeps his stock, and the consumer may have a ready means of knowing the quality of the milk he purchases. The essential requirements for a safe and satisfactory milk supply are as follows:

1—Cows should be healthy and free especially from communicable infections, or any febrile disease or inflammatory condition of the udder.

2—All persons who in any way come in contact with the milk or milk apparatus should be free from communicable diseases and not be carriers. A minimum of human contact with the milk should be insisted upon.

3—The milking should be done in clean rooms,

*Broadcast December 17, 1931, Station WBZA, 5:17 P. M.

the udders washed; the hands of the milker should be clean and dry.

4—The milk should be received into clean, sterilized pails, with a small mouth so as to keep out dust and dirt which falls from the cow's body. If strainers are used they should be cleaned morning and evening. Cans and pails should be cleaned with washing soda or alkaline powder and then steamed or boiled.

5—The milk should be chilled to 50 degrees Fahrenheit or lower at once, and kept protected from flies, dust and contamination in a clean milk house until collected. If stirred, a metal paddle is preferable to a wooden one.

6—The milk should likewise be kept protected and cold, not higher than 50 degrees Fahrenheit, in transit to the city, and protected against tampering en route.

7—All apparatus at the city dairy, such as tanks, clarifiers, separators, pasteurizers, and bottling machines, should be kept scrupulously clean and sterilized by steam.

Inspection of these various points in the production and handling of milk provides a cleaner, fresher and better product, in accordance with the rigidity with which it is carried out and, naturally, with the price that is paid for the milk. But the finest, freshest and most expensive grade of milk may become infected in some of the ways suggested and by some of the germs already mentioned. Great epidemics of disease have been traced to the very highest grades, carefully produced but subsequently infected.

There is, then, another point that must be insisted upon in order to protect this valuable food supply. This last and most important point is Pasteurization. Properly pasteurized milk may be defined as milk that has been heated to between 140 and 145 degrees Fahrenheit for thirty minutes. The object of this heating is to destroy disease germs, if any are present, and thus make the milk safe so far as its liability to carry disease is concerned. Of course, after milk is thus made safe, it must be bottled in sterile containers and kept from contact with anything outside its own bottle. Nowadays this is done by clean machinery — which is a part of the pasteurizing plant—and it is delivered to the consumer just as it leaves the machine.

Milk heated in a pasteurizing machine as has just been explained—from 140 to 145 degrees Fahrenheit for thirty minutes—undergoes no appreciable chemical or physical change. Boiled milk has a cooked taste, but this appears only at a higher temperature. Pasteurization may alter the palatability of milk for a few sensitive individuals, but very few people can detect the difference, while all must admit that it is slight. The heating of milk is said to decrease its digestibility, but this is not so—in fact all the evidence points to an increase in digestibility of pasteurized over raw milk. It is further claimed that the process of pasteurization destroys certain vitamines that occur in raw milk. This objection is not valid because even for the nursing infant the best of milk does not supply an adequate amount of these vitamines, and they must be supplied and can be supplied more readily and more cheaply in other ways.

These rather trivial disadvantages of pasteurization of milk are swept away by the single statement that there is no record of a milk-borne epidemic of disease due to properly pasteurized milk. This cannot be said of any other grade of milk, no matter what its quality. The higher grades may be, and are, more nutritious, but none is safe if it is not properly pasteurized.

With modern machinery pasteurization adds very little to the cost of any milk, but adds a great deal to its wholesomeness as a human food and drink. The use of pasteurized milk is the cheapest, simplest and most effective way of insuring you and your family against milk-borne epidemics of disease. Each household should make sure that it is carrying this insurance. Make sure that you are using pasteurized milk.

DEATH FROM VACCINATION AS WITHIN THE WORKMEN'S COMPENSATION LAW

According to a case published in the *North Western Reporter*, a man vaccinated by a doctor of the employer's company contracted an infection.

The defendant contended that vaccination could not be considered an accident.

The Supreme Court of Michigan, although recognizing the usual harmless effect of vaccination, gave opinion to the effect that since the only "cause, time and place indicated in the record are found in the concession in the statement of facts that the infection was an effect of vaccination and this concession ties the accident or infection to the act of vaccination as occurring in the course of employment"; hence the decision of this Court is that vaccination is within the Workmen's Compensation Law when the person is vaccinated by the company doctor on the premises of the employer in the course of employment.

MORTALITY RATES

Telegraphic returns from 82 cities with a total population of thirty-six million for the week ending December 19, indicate a mortality rate of 11.6 as against a rate of 11.9 for the corresponding week of last year. The highest rate (20.8) appears for Lowell, Mass., and the lowest (5.4) for Youngstown, Ohio. The highest infant mortality rate (18.3) appears for Lowell, Mass., and the lowest for Canton, Ohio, Miami, Fla., Portland, Oreg., and Spokane, Wash., which reported no infant mortality.

The annual rate for 82 cities is 11.8 for the fifty-one weeks of 1931, as against a rate of 11.9 for the corresponding weeks of 1930.—*U. S. P. H. Service.*

COMPARISON OF DISEASE INCIDENCE IN CONNECTICUT WITH 1930 AND SEVEN YEAR AVERAGE

MONTH ENDING DECEMBER 12, 1931

Diseases	1931 Week ending Nov. 21	1931 Week ending Nov. 28	1931 Week ending Dec. 5	1931 Week ending Dec. 12	Average cases reported for week corresponding to Dec. 12 for past seven years	1930 Week ending Nov. 22	1930 Week ending Nov. 29	1930 Week ending Dec. 6	1930 Week ending Dec. 13
Cerebrospinal Men.	—	—	—	1	2	2	1	4	3
Chicken Pox	73	69	85	124	121	85	50	82	79
Diphtheria	4	2	6	5	44	21	9	18	17
Dysentery Bacillary	3	2	—	—	—	—	—	—	—
Encephalitis Epid.	—	—	1	2	1	—	—	—	1
German Measles	1	7	10	7	9	6	4	4	6
Influenza	8	1	12	3	7	3	3	1	1
Malaria	—	—	1	—	—	—	—	—	—
Measles	17	44	38	53	73	91	85	89	105
Mumps	54	13	49	25	39	36	51	67	49
Paratyphoid Fever	2	1	—	—	—	1	—	—	—
Pneumonia (Broncho)*	26	21	23	23	23	18	12	16	13
Pneumonia (Lobar)	25	43	27	27	41	23	21	37	32
Poliomyelitis	3	3	2	4	—	1	—	1	—
Scarlet Fever	58	44	52	48	75	38	36	57	59
Septic Sore Throat	4	3	1	4	6	4	1	—	2
Smallpox	—	—	39	15	—	—	—	—	—
Tetanus	—	—	—	—	—	—	—	1	—
Trachoma	—	—	—	—	—	—	1	—	—
Tuberculosis (Pul.)	17	15	38	27	22	22	21	26	29
Tuberculosis (O. F.)	1	2	2	2	1	1	1	3	1
Typhoid Fever	1	2	2	1	4	4	3	8	5
Typhus Fever	1	—	—	—	—	—	—	—	—
Undulant Fever†	1	1	—	1	—	—	2	3	3
Whooping Cough	40	31	41	59	46	23	38	87	25
Gonorrhea	71	31	32	67	24	40	27	62	20
Syphilis	44	48	49	82	32	40	35	88	38

*Made reportable January 1, 1925.
†Made reportable August 14, 1928.

Remarks: No cases of Asiatic cholera, glanders, plague and yellow fever during the past seven years.

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS FOR NOVEMBER, 1931

Anterior poliomyelitis shows a marked reduction from the October figures of 234 cases but it is higher for November than in any other year except epidemic years. In 1916, 1920 and 1927, the November cases were higher than for this year, but that was to be expected since the peak occurred in October instead of September in those years.

Scarlet fever is slightly higher than in recent years, but only slightly above what is expected.

Mumps has been quite prevalent both in October and November of this year, the November figures being the highest for the month ever reported.

Epidemic cerebrospinal meningitis and German measles are both a little above normal.

Diphtheria continues its low incidence established earlier in the year, November being the third consecutive month in which a record was made for the low number of cases reported.

Chicken pox likewise continues to be low, the number of cases reported in November being the lowest for over ten years.

Typhoid fever also has been making new low records, November being the fourth month this year to break a record for a low number of cases reported.

Measles, lobar pneumonia and influenza have all been slightly under the usual number of cases reported during the month of November.

Whooping cough, pulmonary tuberculosis and tuberculosis in other forms have been reported about the usual number of times expected from previous experience.

The reporting of gonorrhea and syphilis apparently continues to improve since the number of cases of each reported in November is considerably above the number reported in any year since the war.

RARE DISEASES

Anterior poliomyelitis was reported from Amesbury, 1; Ashburnham, 1; Auburn, 1; Boston, 3; Braintree, 1; Brockton, 1; Brookline, 4; Cambridge, 2; Chelsea, 1; Clinton, 1; Colrain, 1; Easthampton, 3; Everett, 1; Fall River, 1; Fitchburg, 6; Haverhill, 2; Holyoke, 1; Malden, 1; Medford, 2; Millbury, 1; Millville, 1; New Salem, 1; Newton, 2; Northampton, 1; Quincy, 1; Somerville, 2; Springfield, 8; Wakefield, 2; Wellesley, 1; Weymouth, 1; Worcester, 1; total, 56.

Anthrax was reported from Peabody, 1.

Dysentery was reported from Barnstable, 1; Cambridge, 2; Lynn, 1; Wrentham, 1; total, 5.

Encephalitis lethargica was reported from Boston, 2; Brockton, 1; total, 3.

Epidemic cerebrospinal meningitis was reported from Boston, 5; Cambridge, 1; Everett, 1; Gloucester, 1; Lowell, 2; Revere, 1; Worcester, 1; total, 12.

Malaria was reported from Chelsea, 3; Worcester, 1; total, 4.

Pellagra was reported from Boston, 1; Milford, 1; Northampton, 2; Winchester, 1; total, 5.

Septic sore throat was reported from Beverly, 1; Boston, 9; Everett, 1; Lexington, 1; Lowell, 1; Malden, 1; Melrose, 1; Pittsfield, 2; Quincy, 1; Watertown, 3; total, 21.

Trachoma was reported from Boston, 3; Gardner, 1; Malden, 1; total, 5.

Trichinosis was reported from Bridgewater, 1; North Adams, 1; total, 2.

Undulant fever was reported from Northbridge, 1; Westboro, 1; Williamstown, 1; total, 3.

MONTHLY REPORT OF CERTAIN COMMUNICABLE DISEASES

	Cases in Entire Pop.				Case Rates per 100,000 Pop.		
	Nov. 1931	Nov. 1930	Proso. Index*	Epi. Index†	Nov. 1931	Nov. 1930	Expected Rates‡
All Causes	5433	5689	—	—	127.1	133.7	—
Ant. Polio.	56	51	31	1.8	1.3	1.2	.7
Diphtheria	243	268	395	.6	5.7	6.3	9.2
Ep. C. S. Men.	12	6	4	3.0	.3	.1	.1
Measles	390	559	1295	.3	9.1	13.1	30.3
Pneu. Lobar.	242	329	278	.9	5.7	7.7	6.5
Sc. Fever	906	677	842	1.1	21.2	15.9	19.7
Tbc. Pul.	350	365	317	1.1	8.2	8.6	7.4
Ty. Fever	15	37	21	.7	.4	.9	.5
Wh. Cough	474	397	1083	.4	11.1	9.3	25.3
Chicken Pox	488	1424	—	—	11.4	33.5	—
Ger. Measles	66	62	—	—	1.5	1.5	—
Gonorrhea	559	528	—	—	13.1	12.4	—
Influenza	19	13	—	—	.4	.3	—
Mumps	627	184	—	—	14.7	4.3	—
Syphilis	326	309	—	—	7.6	7.3	—
Tbc. Other Forms	47	41	—	—	1.1	1.0	—

*This index is an attempt to estimate the number of cases based on the trend during the past years which can be expected to occur, and is for the purpose of comparison with the number of cases which actually did occur.

†This ratio expresses how prevalent the disease is compared with the index mentioned above; 1.0 indicates that the actual number of cases equals the expected number. A larger number means a greater prevalence, and a smaller number a lesser prevalence than expected. Thus 2.0 would indicate twice the expected number, and .5 half the expected number of cases. The method used to determine the indices is described in the August 18, 1927 issue of the *Boston Medical and Surgical Journal.*

‡Calculated from the Prosodemic Index.

FUNCTIONS OF AN INDUSTRIAL EYE CLINIC

The benefits gained by industry through eyesight of employees are pointed out in a report just issued by the Metropolitan Life Insurance Company under the title "Functions of an Industrial Eye Clinic." This study further describes methods employed by leading industrial enterprises for supervising the visual conditions of workers through plant clinics.

"In almost any industrial plant where careful eye tests are conducted by an oculist, it will be found on the initial eye survey of employees that about 40 to 50 per cent. have subnormal vision needing correction," the report states, and proceeds to describe the equipment and procedure necessary for correcting this condition. Several illustrated pages are devoted to a description of the technic of eye examinations, including a section on the many types of color blindness and recently devised methods of detecting it.

Particularly interesting to the industrialists is the chapter "Principles of Illumination" which tells about increase in productive efficiency traced directly to better vision. When the United States Public Health Service carried on a series of tests in the Post Office Department, it was found, the report states, "that increasing the illumination from 2.7 to 10.7 foot-candles resulted in an increase of about 8 per cent. in the number of pieces of small mail which could be sorted. . . . Investigations by Dr. M. Luckiesh indicate an increased speed of 15 per cent. in reading ordinary printed matter for an increase of illumination from a value of 4 to a value of 16 foot-candles. For black print on gray paper the increase in speed was 50 per cent."

Discussing quantity, color, glare and diffusion of light, the report sums up the subject by saying, "Among the advantages of good lighting in work places are greater accuracy of work, less eyestrain, increased production, less wastage, increased efficiency because of the greater ease with which work can be supervised, better order and cleanliness, and a reduction of accidents. A psychological effect may also be obtained through more cheerful surroundings due to good lighting, resulting in greater contentment and cheerfulness among workers." The concluding chapter deals with Light Codes.

Copies of this publication may be obtained by addressing the Policyholders Service Bureau of the Metropolitan Life Insurance Company, New York City.

WOULD HOSPITALS BENEFIT BY A COÖPERATIVE APPEAL?

A method in vogue in New York seems to be productive of good results as shown by the recent announcement that contributions varying from one thousand to twenty-five thousand dollars and amounting to a total of four hundred and fifty-eight thousand, seven hundred and eighty-nine dollars have been received by the United Hospital Fund of that city.

The appeal was for fifty-five member hospitals which report a total combined deficit of five million dollars for 1931.

Regular combined annual appeals would in this way economize effort on the part of committees.

The doubt may exist that a combined effort does not develop personal interest in a single hospital although it would not alienate interest in a particular institution which had an appeal to those who had become interested in a particular organization. Some persons who have no affiliation with special groups might be interested in the combined plan.

It seems to be a productive scheme in New York.

AIR-CONDITIONING

Statements respecting attention to regulating the quality of air in buildings have been submitted to this *Journal* as follows: air-conditioning for small as well as large homes, including filtering, washing, humidification, heating, cooling and circulation, is to be made available shortly by companies that plan to start mass production and marketing of air-conditioning units in January. This equipment, simple and fool-proof in operation, and moderate in cost, will give the householder complete control over air conditions in his home regardless of the weather outdoors. Actual tests have shown that filtering and washing removes 99 per cent. of germ-laden dust from the air, eliminates "dry kiln" conditions so disastrous to furniture and fabrics, makes the daily dusting habit unnecessary, adds to the family's health and comfort, and in general makes the home more livable and enjoyable the year 'round.

CORRESPONDENCE

DR. SOLOMON H. RUBIN ASKS POINTED QUESTIONS RESPECTING EXEMPTION CERTIFICATES

The School Committee of the City of Boston
Administration Building, 15 Beacon Street
Department of School Hygiene

December 17, 1931.

Editor, *New England Journal of Medicine*,

The Massachusetts law relative to vaccination provides that no unvaccinated child shall be admitted to a public school except upon presentation of a certificate signed by a registered physician, designated by the parent or guardian, stating that the physician has at the time of giving the certificate *personally examined* the child and is of the opinion that the physical condition of the child is such that his health will be *endangered* by vaccination. Such certificate of exemption once issued does not create an exemption from vaccination for all time, and a new certificate is required from time to time in order to continue such exemption. School authorities may demand a new certificate of exemption every two months but the pupil will be given a reasonable time to produce the certificate—about two weeks additional.

We have no desire to question the motives or the judgment of any physician who declares in a statement over his signature that he has *personally examined* the child and that in his opinion the health of the child will be *endangered* by vaccination. In fact, we have no legal right to question the veracity of a doctor's signed statement; we simply must accept it. We may have a moral right, however, unofficially, to inquire into the motives which stir physicians to issue such certificates to unvaccinated children who measure up to all the standards of good health. This has been done from time to time, informally, and the results would be amusing if they were not pathetic. For instance, one physician issued a certificate to a healthy unvaccinated child in which he stated that in his opinion the health of the child would be endangered by vaccination, and when informally and unofficially questioned about it, the doctor's reply was that the child had

"enlarged adenoids". When asked what relation adenoids had to vaccination, his answer was a prompt revocation of the certificate, this when reminded that the State Board of Registration in Medicine may, if it so desired, ask the same question. Of course, the doctor knew better than to associate adenoids with vaccination, but he evidently regarded his signature rather lightly and irresponsibly, otherwise he would have refused to certify that a healthy child was an unfit subject for vaccination. Even the parents of the child to whom the certificate was issued held no respect for the ethics of the physician.

On other occasions we have been informed by physicians that flat feet, scoliosis, defective teeth, "debility", "anemia", and "constitutional weakness" are contraindications to vaccination. It is difficult to understand why this small group who present these alleged "physical defects" may not be safely vaccinated when the 132,000 children in our public schools, some of whom present *positive evidence* of organic heart disease, malnutrition, asthma, hay fever, orthopedic defects, defective teeth, defective and hypertrophied tonsils and adenoids and other physical defects, have been successfully vaccinated without having suffered the slightest disturbance. The physicians who vaccinated these 132,000 children undoubtedly were of the opinion that the physical defects presented were not contraindications to vaccination, and the fact that these children were not in the least affected by vaccination proves that the small group of children in the schools whom the physicians have declared were unfit for vaccination could and should have been vaccinated.

If a physician certified a child belonging to the group showing positive evidence of diseases or conditions referred to above as being unfit for vaccination, we would be inclined to respect his opinion and his motive,—although we would disagree emphatically with him,—but—when a strong, healthy, robust, fun-loving, active, and energetic child is sent to a public school armed with a certificate from a physician, who would resent being called unethical or perhaps untruthful, which declares over the physician's signature that in his opinion the health of the child would be endangered by vaccination,—well, we wonder.

Our school physicians are well-trained men and women. It is their duty to examine all school children and they are usually successful in detecting all discoverable physical defects. If a child's physical condition is such that his health would be endangered by vaccination, our school physicians are in a position to appraise that child's physical condition when he enters school. Seek as hard as we might, we have been unable to confirm the opinion of the majority of physicians who have issued such certificates to unvaccinated children. Of course, a physician is not legally bound to explain his conduct in issuing such certificates to children who present no evidence of physical or mental ill health, but we have a right to question in our own minds the character of the man who issues such a certificate to a perfectly healthy child. Men do make mistakes, but are they errors of omission or commission? Are they mistakes in technique or mistakes due to lack of knowledge? Are they deliberate mistakes for a fee, or are they just the careless mistakes of an honest but unthinking man? We wonder.

Let us be sure we are right before we affix our signatures to a *doctor's certificate.*

Very truly yours,

SOLOMON H. RUBIN, M.D.,
Acting Director of School Hygiene.

EDITORIAL QUESTION:

Why temporize with physicians who are obstructionists? Action by the Board of Registration in Medicine or committees of medical societies may determine how far a doctor may go in signing exemption certificates.

Massachusetts has been fortunate in recent years in having had very little smallpox, due, we believe, to the compulsory vaccination law. Other cities not so protected have suffered.

THE ETIOLOGY AND THERAPY OF DEFORMING ARTHRITIS

December 26, 1931.

To the Editor, *New England Journal of Medicine,*

A little over a year ago a trek of hopeless, hopeful cancer patients was taking place across the country to California, because of injudicious newspaper publicity given to the local announcement of a new treatment for cancer. After reading the *Boston Herald* of December 23, in which appears the account of an address by Dr. Reginald Burbank on the etiology and treatment of chronic arthritis, it would not be surprising if the trek be repeated; this time to New York City.

It seems highly injudicious to present to the public, and particularly hopeful and gullible sufferers of arthritis, such material in view of the fact that the subject of therapy for arthritis is in such a highly controversial state.

Dr. Burbank is to be highly commended for his earnest and honest prolonged study of the etiology and therapy of chronic deforming arthritis. Whether he is right or wrong, or partly right, is another question. His presentation the other evening was dignified and convincing, but critical examination of his experiments and results brings to light inconsistencies and the need for the interpretation of his data from other points of view.

From the very fact that he obtains gratifying results in certain cases, springs great need for caution against the inexperienced and unrestricted use of his principle of therapy in chronic arthritis. I have seen and treated typical cases of atrophic arthritis who dated the marked exacerbation of their disease from this form of therapy.

There are logical reasons why his method of

therapy should benefit *certain* cases of atrophic arthritis if it is applied cautiously, but these reasons controvert the theory which is his guiding principle. I would disagree with the theory which he sponsors, and I believe that it can be shown from the data which he presents that his fundamental arguments are not consistent. Furthermore, the results which he claims clinically can be obtained with more effectiveness and promptness in the "preferred" group of patients by the intravenous use of non-specific foreign protein, disregarding the principle of bacterial specificity, and obviating the laborious and expensive bacterial studies which his theory demands.

Modern immunology as generally taught is slow to accept the idea that the manifestations of infection may be determined more by the specific type of reactability which the animal organism may present to the offending bacterium, rather than by the specific poisons which the bacterium may present to the animal organism. The growth of pathogenic bacteria locally within the tissues is still viewed more from the standpoint of "sepsis" than it is from the standpoint of how the tissues are reacting at a given time to the local growth of the bacterium. More attention to this phase of infection would in all probability speed progress in many phases of infection, including the common cold, influenza, pneumonia, pulmonary tuberculosis, acute rheumatic fever, and *Deforming Arthritis.*

MILLARD SMITH, M.D.

HYPERADRENALISM THE CAUSE OF SOME MANIFESTATIONS IN HYPERINSULINISM

Editor, the *New England Journal of Medicine,*

I was very much interested in the paper of M. Criscitiello, Jr., and E. R. Messer on the "Neurologic Phenomena in the Course of the Treatment of Diabetes" in the December 24 number of the *New England Journal of Medicine.* The authors should be congratulated on the excellent diagnosis of hyperinsulinism as the cause of a transient hemiplegia in a diabetic treated with insulin.

Since this phenomenon is of great importance and the authors claim to be at a loss how to explain it, may I be permitted to make the following few statements. Transitory hemiplegia observed by the writers is one of the many after-effects hyperinsulinism may have on the cardiovascular system. I have seen permanent hemiparesis, angina pectoris, and retinal hemorrhage caused by an insulin reaction in diabetics with arteriosclerosis. Similar cases have been reported in the literature. Cerebral hemorrhages have been reported to be found at two autopsies of diabetic coma treated with insulin.

Experimental and clinical observations on hyperinsulinism are favoring the belief that a part of its symptoms is produced by an increased outflow of adrenalin (hyperadrenalism) into the blood during the hypoglycemia. This will explain the possibility of angiospasms in hyperinsulinism manifested in transient hemiplegia or anginal attacks, or the rupture of a blood vessel resulting in more permanent hemiplegia or retinal hemorrhage, or hematuria.

In a paper which is being published elsewhere, I warn against the overdose of insulin, especially in arteriosclerotic patients, and stress the importance of quick diagnosis and relief of hypoglycemia. Any unusual symptom which may occur during insulin administration should be treated as a sign of hypoglycemia until otherwise proved.

Very truly yours,

A. RUDY, M.D.

A RIME APPROPRIATE FOR THE TIMES

December 28, 1931.

Editor, the *New England Journal of Medicine,*

We all get presents from grateful patients at various times and Christmas seems to be particularly chosen. Some of them are accompanied by notes and some by rimes. In a rime received from a patient this last Christmas the following stanza might make some of my fellow practitioners smile, as I did, for it is a frank statement of a situation of many of our patients these days.

"Oh, it is simply swell
To sit here getting well
And yet be far too ill
To pay a bill!"

Some one of your readers might be able to suggest a better answer than the following lines taken from my riming reply:

"Getting well, feeling swell may be part of the game,
But the case isn't over 'til receipt precedes name."

With best wishes for the New Year, I am

HILBERT F. DAY.

A CASE SHOWING DEFECTIVE DEVELOPMENT OF THE GENITO-URINARY ORGANS

December 21, 1931.

Editor, *New England Journal of Medicine,*

I wish to report a case which shows defects of development of the genito-urinary organs to an unusual extent.

The case is one of a girl 18 years of age, who has never menstruated. She suffered no discomfort because of this and, so far as she was aware, was a normal adult female in all other respects. So far as her family was concerned, her mother and brother were normal except that they were very stout and, most certainly in appearance, gave the impression of glandular deficiency. The family history was otherwise negative.

There was nothing in her past history of any moment, and the only reason for seeking medical advice was that her mother felt that she should have menstruated. On examination, the patient is rather stout, the skin dry, and the facial expression somewhat dull. It is quite evident that there is some degree of mental deficiency. Otherwise her appearance is that of a normal female of 18.

Her hair seems normal. The breasts are rather large, but otherwise seem normal. There is normal

axillary and pubic hair. The external genitals are absolutely normal except for the absence of any vaginal outlet. The abdominal examination is entirely negative, there being no evidence of any enlarged uterus or mass, as one would expect with no vaginal outlet. On rectal examination, in a position where one would expect it, or possibly more to the left, is a mass the general size, shape, and consistency of a slightly enlarged uterus, with a prolongation downward, which resembled a cervix. The physical examination is otherwise absolutely negative.

An operation was decided upon in an effort to find some remnant of a vagina. This was absolutely to no avail, and it seemed wise to open the abdomen. There was no evidence of any uterus, tubes, or ovaries in the pelvis. Otherwise the pelvis appeared normal. On palpation, a mass was felt the shape and consistency of a kidney. This mass was retroperitoneal in the posterior wall of the pelvis, slightly to the left of the median line. It was about twice the normal size of a kidney. No ureter could be demonstrated but inasmuch as there were no urinary symptoms, there probably was a ureter. No other evidence of kidney tissue could be located anywhere in the abdomen. Undoubtedly this mass was the one felt by rectum and considered a uterus. Just above each internal inguinal ring was a mass which had all the characteristics of a normal ovary. These were, maybe, somewhat smaller than usual. At the upper pole of each ovary was what appeared to be a rudimentary fimbriated extremity of a fallopian tube and running from the lower pole of each ovary to the internal inguinal ring, a round whitish structure, somewhat resembling a round ligament. These structures were about an inch and a half long. On the left side, this cord-like structure terminated just before it entered the inguinal ring, in a structure the general shape, appearance and consistency of a uterus. The size of this was about that of a little finger-nail. So far as could be ascertained, the rest of the abdominal cavity was normal.

It would be very interesting to make a further study of glandular development in this girl, but both the patient and the family refuse to have this done at the present time. It would also be interesting to cystoscope her, but I feel that a request for this examination just at present would be of no avail and might antagonize the family. I am hoping to do this at some future date.

Incidentally, I might say that I removed her appendix and her convalescence has been absolutely uneventful.

Very truly yours,

EDWIN D. GARDNER.

150 Cottage Street,
New Bedford, Mass.

THE RECOGNITION OF SYPHILIS

To the Editor, the *New England Journal of Medicine*,

Having read Dr. MacDonald's recent paper on late recognition of syphilis, may I add a few cases from my own files to emphasize the wrong done to our patients and the community by not making our diagnoses in time.

Cases 1 and 2. Mrs. K. had her first premature baby in 1925. It developed a rash, diagnosed by a prominent pediatrician as pemphigus and died at the age of three weeks. The next pregnancy ended with a macerated fetus in the seventh month. The Wassermann from the cord was negative. In spite of that I happened to see the fetus, and made my diagnosis of syphilis. I succeeded in proving it by the positive blood test of the father, and a positive provocative test of the patient.

Only later after much questioning, did I find out, that the patient—at that time not yet married—had a sore on her lip in 1922, persisting for several months and accompanied by a sore mouth lasting for about six months. Her fiancé had a sore mouth simultaneously. Both were treated at that time by an eminent practitioner of medicine affiliated with a medical school of "A1" rating.

Now, after four years' treatment both patients have still a positive Wassermann reaction.

Case 3. A married woman, 30 years old, was treated for a generalized eruption for four weeks by a very busy practitioner; she also had a sore throat and decided to see a specialist for that. The laryngologist recognized the condition immediately. During the time she was getting calamine lotion for her rash, she infected her friend. Both are now under treatment for syphilis.

Case 4. A young girl of 19 had a sore on the lip, which was not diagnosed until three weeks after her first call to a prominent practitioner of good training. How many boys are disseminating spirochetes gathered from those lips during those three weeks, I do not know. This case—by the way—though reported by name to the State Department of Health is—to my best knowledge—not yet under adequate treatment.

In conclusion may I suggest that a better understanding and knowledge of syphilis in its early stages, and a more thorough knowledge of skin diseases by the whole medical profession, to enable them to recognize syphilis early, is essential for dealing with this disease. The way to obtain it is to develop teaching of these branches of medicine in our medical schools, equal to the importance they have in European curricula, instead of cutting down on the time and energy allotted to them, as is apparently happening now.

Yours truly,

JOSEPH MULLER, M.D.

RECENT DEATHS

TOWLE—DR. EDWIN DUDLEY TOWLE, a Fellow of the Massachusetts Medical Society, died at his home in Salem, December 22, 1931, after a long illness.

He was born at Dover, N. H., 68 years ago, the son of Jeremy and Mary A. Towle, and was educated at schools in Maine and at Maryland Medical College,

Baltimore, taking his M.D. at the latter in 1903. He was a veteran of the Spanish War and a member of the United States board of pension examiners after 1926.

Dr. Towle is survived by his widow, Emma Malone Towle, and by two daughters.

HOWE—Dr. Octavius Thorndike Howe, a former practitioner of Lawrence, died at his home in Boston, December 27, 1931.

The son of Octavius and Sarah Lamson Howe he was born at Beverly, March 16, 1851. He was graduated A.B. from Harvard in the class of 1873 and M.D. in 1877. He joined the Massachusetts Medical Society at once and practised in Cambridge for a year or two when he moved to Lawrence. There he was surgeon to the Massachusetts Volunteer Militia, Medical Examiner to the fifth district of Essex County, a member of the Massachusetts Medico-Legal Society and visiting physician to the Lawrence Hospital. In 1908 he retired partly from practice and became president of the Archibald Wheel Company of Lawrence. Dr. Howe was the author of "The Argonauts of '49," published in 1922. He had made his residence in Boston since 1912. He is survived by his second wife, who was Miss Lotta P. Kelley, and by a son. Another son, George Plummer Howe, a graduate of Harvard Medical School in 1904, was first lieutenant and assistant surgeon to the London Fusileers, and was killed in action September 28, 1917, having been the recipient of the Distinguished Service Cross for valor.

NOTICES

TWO AWARDS

The New England Society of Psychiatry, at its next Spring meeting, will make two awards, one of $100.00 and one of $50.00, to the writer (or writers) of the best papers published during the calendar year of 1931 embodying *research in psychiatry* by a younger worker (or workers). Physicians, psychologists, social workers, or others are eligible. Membership in the Society is not a requisite.

Writers who have once received an Award are not again eligible. Seasoned writers, senior physicians, or heads of departments in which there are junior workers, while not inevitably excluded, will not generally be regarded as eligible for the Awards.

The work on which the papers are based should preferably have been done in New England or by workers now living in New England.

The papers will be examined by a Committee of three members who are accustomed to reviewing papers, and by the Executive Committee of the Society. They will be judged on the basis of their scientific quality.

Reprints of articles or marked copies of journals in which the articles appeared should be sent before February 1, 1932, to the Secretary of the Society.

Superintendents of institutions, public or private, for the care of mental patients in New England are requested to post this notice and send to the Secretary a list of such papers published by the members of his staff as he thinks entitled to be considered for the Awards.

Harlan L. Paine, M.D., *Secretary.*
North Grafton, Mass.

RADIO HEALTH MESSAGES

January-February-March, 1932

Sponsored by the Public Education Committee of the Massachusetts Medical Society and the Massachusetts Department of Public Health.

Courtesy WBZA. Thursdays at 4:50 P. M.

January
- 7 Rabies or Hydrophobia
- 14 Beginning to Grow Up
- 21 Do Your Feet Hurt?
- 28 Lobar Pneumonia

February
- 4 Health in Industry
- 11 Growing Strong Teeth
- 18 The Common Cold
- 25 Whooping Cough

March
- 3 The Psychology of the Crippled Child
- 10 Personal Rights vs. Public Safety
- 17 Electrical Hazards in the Home
- 24 Can High Blood Pressure Be Avoided?
- 31 Rose Cold and Hay Fever

State House Broadcast

Sponsored by the Massachusetts Department of Public Health.

Courtesy WEEI. Fridays at 12:30 P. M.

Health matters of public interest discussed by the Division Directors of the Department.

Radio Health Forum

Queries from the public are answered under the sponsorship of the Department of Public Health.

Courtesy WEEI. Fridays at 4:50 P. M.

Questions on Health and Prevention of Disease may be sent to: Radio Health Forum, State Department of Public Health, State House, Boston.

Special Series of Broadcasts

Sponsored by the Massachusetts Department of Public Health.

Courtesy WEEI. Mondays at 7:15 P. M.

White House Conference on Child Health and Protection

Round Tables

1932

January

11 Round Table No. 4—What a Community Owes to Its Children
Conducted by Lila Owen Burbank, M.D.

18 Round Table No. 5—Unto the Least of These
Conducted by Mr. Alfred F. Whitman

MEDICAL CLINIC AT THE PETER BENT BRIGHAM HOSPITAL

At 3:30 P. M., on Thursday, January 14, in the Amphitheatre of the Peter Bent Brigham Hospital, a medical clinic will be given by Dr. Henry A. Christian, to which physicians are cordially invited. The clinics will be held regularly on Thursday afternoons.

NOTICES OF MEETINGS

BOSTON CITY HOSPITAL

STAFF CLINICAL MEETING

The January Clinic at the Boston City Hospital will be held in the Surgical Amphitheatre, January 19, 1932, at 8 P. M.

Dr. David Rapport (Professor of Physiology Tufts Medical School), "The Physiological Aspects of Dyspnea."

Dr. George P. Sanborn (Immunological), "Allergic Dyspnea."

Dr. Thomas K. Richards (Surgical), "Dyspnea in College Athletes."

Dr. Cadis Phipps (Physician-in-Chief), "Discussion."

COMMITTEE ON CLINICS,
Boston City Hospital.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

The January meeting of the Middlesex East District Medical Society will be held on Wednesday, January 13, at Oak Manor in Melrose. Dinner will be served at 6:30 o'clock and will be followed by the usual brief business session. A paper will be presented on the "Treatment of Hip Fractures", by Dr. Joseph H. Fay,—Dr. Ralph D. Leonard leading the discussion. A paper on "Anaemia in Obstetrics" will be presented by Dr. Kenneth L. Maclachlan,—Dr. Howard A. Bouvé leading the discussion.

ALLAN R. CUNNINGHAM, *Secretary.*

ESSEX NORTH DISTRICT MEDICAL SOCIETY

91ST SEMI-ANNUAL MEETING, WEDNESDAY, JANUARY 13, 1932, AT KENOZA COUNTRY CLUB, HAVERHILL. PHONE 5544.

12:30 (sharp)—Dinner, followed by a short business meeting.

2:00—Dr. George H. Bigelow, Commissioner of Health of Massachusetts. Subject "The Relationship Between the Department of Public Health and the General Practitioner."

2:45—General discussion. Suggested Bibliography: *N. E. Journal*, Jan. 22, 1931, Editorial; also House Bill number 288, page 179; June 4, Dr. Dameshek, page 1187; July 16, Dr. Ross, page 126; Sept. 17, Dr. Cox (sec. British Med. Assn.); Handbook of Health Insurance, State Medicine and Cost of Medical Care, A. M. A. pamphlet, 1931, 35c.

H. H. NEVERS, *President.*
E. S. BAGNALL, *Secretary,*
281 Main Street, Groveland.

INTER-STATE POSTGRADUATE MEDICAL ASSOCIATION OF NORTH AMERICA

The International Assembly for 1932 will be held at Indianapolis, Indiana, October 24-28, incl., at the Murat Theatre and Shrine Temple.

SOUTH END MEDICAL CLUB

The next regular meeting of the South End Medical Club will be held at the office of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston, on Tuesday, January 19, 1932, at 12 noon.

The speaker will be Harry W. Goodall, M.D., of 51 Bay State Road, Boston, and his subject, "Carcinoma of the Colon."

The usual luncheon will be served at 1 o'clock, and all physicians are cordially invited to attend.

LECTURE BY M. LUCKIESH

JOINT MEETING WITH METROPOLITAN ELECTRIC LEAGUE —FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY ARE INVITED

M. Luckiesh, B.S., M.S., E.E., D.Sc., Director, Lighting Research Laboratory, General Electric Company, Cleveland, Ohio.

Dr. Luckiesh, an international authority on Light and Ultraviolet Radiation, author of 17 books and innumerable articles on these subjects, will address members of the scientific, engineering and electrical societies of New England.

Title: This Ultraviolet Situation. This subject holds an allied interest for many branches of science and engineering because of its diverse modern applications.

Time: 8 P. M., Wednesday, January 13, 1932.

Place: Lecture Hall 5-330, Massachusetts Institute of Technology, Cambridge, Mass. Third floor of Pratt Building, 55 Massachusetts Avenue.

HARVARD MEDICAL SOCIETY

Next meeting in the Peter Bent Brigham Hospital Amphitheatre (Van Dyke Street entrance), Tuesday evening, January 12, at 8:15 o'clock.

PROGRAM

Presentation of cases.

Some Experimental Observations on the Thyroid Gland, by Dr. William F. Rienhoff, Jr., of the Surgical Department, Johns Hopkins Medical School.

Medical students and physicians are cordially invited to attend.

JOHN HOMANS, *Secretary.*

MASSACHUSETTS GENERAL HOSPITAL

A Clinical Meeting of the Staff of the Massachusetts General Hospital will be held in the Moseley Memorial Building on Thursday, January 14, 1932, at 8:15 P. M.

PROGRAM

1. Presentation of Cases.
2. Factors Effecting Potency of Pituitary Transplants. Dr. Leroy Goodman.
3. Observations on the Experimental Production of Ovulation in the Rabbit. Dr. George B. Wislocki, Parkman Professor of Anatomy, Harvard Medical School.

Physicians, medical students and nurses are cordially invited to attend.

COMMITTEE ON HOSPITAL MEETINGS.

SOCIETY MEETINGS
CONGRESSES AND CONFERENCES

January 8—William Harvey Society. See notice on page 1321, issue of December 31.

January 12—Harvard Medical Society. See page 39.

January 13—Lecture by M. Luckiesh. See page 39.

January 14—Medical Clinic at the Peter Bent Brigham Hospital. See page 39.

January 14—Massachusetts General Hospital Staff Clinical Meeting. See notice above.

January 19—Boston City Hospital, Staff Clinical Meeting. See page 39.

January 19—South End Medical Club. See page 39.

February 4 - June 1—New England Heart Association. See page 891, issue of October 29.

March-April, 1932; Autumn, 1932—International Postgraduate Courses in Berlin. See page 1169, issue of December 10.

April 4-8, 1932—The American College of Physicians. See notice on page 1232, issue of June 4.

May 9-13, 1932—American Medical Association, New Orleans, La.

June 8, 9, 10, 1932—Massachusetts Medical Society, Hotel Statler, Boston.

October 24-27, 1932—American Public Health Association. See notice on page 1321, issue of December 31.

October 24-28—Inter-state Postgraduate Medical Association of North America. See page 39.

DISTRICT MEDICAL SOCIETIES

Essex North District Medical Society

January 13—See page 39.

May 4, 1932—Annual meeting at Lawrence.

Essex South District Medical Society

February 3, 1932, Wednesday—Council Meeting, Boston.

February 10, 1932, Wednesday—Hawthorne Hotel, Salem. Dinner 7 P. M. Speakers: Dr. Lincoln F. Sise and Dr. Harry H. Germain. Subject: Selection of the Anesthetic for the Patient and Operation. Dr. Sise to speak from the viewpoint of the Anesthetist, and Dr. Germain from the viewpoint of the Surgeon.

March 2, 1932, Wednesday—Lynn Hospital. Clinic 5 P. M. Dinner 7 P. M. Subject to be announced later. Speaker: Dr. Elmer W. Barron, Boston.

April 6, 1932, Wednesday—Essex Sanatorium, Middleton. Clinic 5 P. M. Dinner 7 P. M. Speaker: Dr. Arthur P. Wakefield, State Department of Health. Subject: 10-Year Tuberculosis Program in the Public Schools.

May 5, 1932, Thursday—Censors' Meeting, Salem Hospital, 3:30 P. M.

May 10, 1932, Tuesday—Annual Meeting. The Tavern, Gloucester. Speaker and subject to be announced later. Ladies invited.

Franklin District Medical Society

Meetings will be held on the second Tuesday of January, March and May at the Weldon, Greenfield, at 11 A. M.

CHARLES MOLINE, Secretary.

Middlesex East District Medical Society

At a meeting of the executive committee the following schedule for the Middlesex East District Medical Society was arranged:

January 13—See page 39.

March—At Reading.

May—At Woburn.

All meetings on the second Wednesday of each month unless otherwise announced.

Norfolk District Medical Society

January 26, 1932—Boston Sanatorium, Mattapan. Dr. Timothy J. Murphy. Meeting to be devoted to Diseases of the Chest.

February 23, 1932—Place to be announced. Clinico-Pathological meeting, Dr. Frank S. Cruickshank, Dr. F. B. Mallory, or a representative from his department.

March 29, 1932—Place to be announced. Boston Public Health Meeting. Speakers, Honorable James M. Curley, Dr. Francis X. Mahoney, Dr. Charles Wilinsky, Dr. W. H. Griffin.

May, 1932—Annual Meeting, date and place to be announced.

May 5, 1932—Censors' Meeting for examination of candidates. Roxbury Masonic Temple, 171 Warren Street, Roxbury, 4 P. M. Fee $10.00 payable at time of examination. All candidates will have applications in the hands of the secretary one week prior to this date. All candidates from Medical Schools not on approved list of Society must have application complete two weeks prior to date of examination.

F. S. CRUICKSHANK, Secretary.

Norfolk South District Medical Society

February 4—This meeting will be held at the Quincy City Hospital. The program will be furnished by the members of the hospital staff.

March 3—Speaker: Roderick Heffron, M.D. Subject: Pneumonia.

April 7—To be announced later.

May 5—Annual meeting.

The time of all meetings is 12 o'clock noon. All meetings, except February 4, will be held at the Norfolk County Hospital, South Braintree. Censors will meet on May 5 at 11:15 A. M. at the Norfolk County Hospital.

N. R. PILLSBURY, Secretary.

Suffolk District Medical Society

January 27, 1932—General Meeting in Association with the Boston Medical Library. Titles and speakers to be announced later.

February 24, 1932—Clinical Program, the Children's Hospital.

March 30, 1932—Clinical Program, New England Deaconess Hospital.

April 27, 1932—The Annual Meeting, Boston Medical Library. Election of Officers.

The Medical Profession is cordially invited to attend all of these meetings.

GEORGE S. DERBY, M.D., President.*
LELAND S. McKITTRICK, M.D., Secretary.
HILBERT F. DAY, M.D., Boston Medical Library.

Worcester District Medical Society

Wednesday evening, January 13, 1932—Worcester City Hospital, Worcester, Mass. 6:30—Dinner, complimentary by City Hospital. 7:45—Program: To be announced later.

Wednesday evening, February 10, 1932—Worcester State Hospital. 6:30—Dinner, complimentary by the Worcester State Hospital. 7:45—A psychiatric program to be announced later.

Wednesday evening, March 9, 1932—Memorial Hospital, Worcester, Mass. 6:30—Dinner, complimentary by Memorial Hospital. 7:45—A pediatric meeting with subjects to be announced later.

Wednesday evening, April 13, 1932—Grafton State Hospital, North Grafton, Mass. 6:30—Dinner, complimentary by Grafton State Hospital. 7:45—Program to be announced later.

Wednesday afternoon and evening, May 11, 1932—Annual Meeting. Program to be announced later.

ERWIN C. MILLER, Secretary.

*Deceased.

BOOK REVIEWS

Osler and Other Papers. By WILLIAM SYDNEY THAYER, M.D., LL.D. Baltimore: The Johns Hopkins Press; London: Humphrey Milford; Oxford University Press, 1931. 386 pages. Price $3.50.

This is a delightful group of essays from the pen

of one of the best-known teachers of medicine in this country. A number of them are about the late Sir William Osler. Dr. Thayer's close association with Osler during the early days of the Johns Hopkins Medical School is particularly well recorded in the first chapter on "Osler, the Teacher." This essay, published at the time of Osler's death in 1919, is well known, but a second paper, published ten years later in a medical journal with a relatively small circulation, must have been lost to many readers before its republication in this book. It consists of reminiscences of Osler during the very early days of the Johns Hopkins Hospital with details given that could only be recorded by such an intimate associate as Dr. Thayer. Another essay which deserves a wide audience was published in the *Harvard Graduates' Magazine* in 1927. In this brilliant piece of writing, Osler is referred to as "Dr. Fowler" and the author shows the influence of Osler on his students, giving numerous instances of Osler's particular method of teaching. There is also reprinted in this volume the address given by Dr. Thayer at the opening of the Osler Library in 1929. In addition, there have been gathered together a number of papers and addresses of a general character. Particular attention should be called to the excellent biography of Reginald Heber Fitz, a note on Richard Bright delivered at Guy's Hospital in 1927 and not at all so well known in this country as it deserves to be, and a number of lighter papers written in relation to various birthday anniversaries of Dr. William H. Welch.

This is a book which should make a wide appeal to the medical profession. Few of our colleagues can write so well and have had such a large experience with the members of our profession who have been the leaders for the last thirty years.

Diagnosis in Joint Disease. A Clinical and Pathological Study of Arthritis by NATHANIEL ALLISON, M.D., F.A.C.S., Professor of Surgery, in charge of Division of Orthopedic Surgery, University of Chicago; formerly Professor of Orthopedic Surgery, Harvard Medical School and Chief of Orthopedic Service, Massachusetts General Hospital, and RALPH K. GHORMLEY, M.D., Associate in Orthopedic Surgery, Mayo Clinic; Assistant Professor of Orthopedic Surgery, Mayo Foundation, Rochester, Minnesota; formerly instructor in Orthopedic Surgery, Harvard Medical School and Visiting Surgeon, Massachusetts General Hospital. From the Orthopedic Service of the Massachusetts General Hospital and the Harvard Medical School (1924-1930). Assisted by the DeLamar Mobile Research Fund. New York. William Wood and Company 1931. Price $9.00.

This book by Allison and Ghormley is an important and timely contribution to the subject of diagnosis in joint disease. The large clinical experience and long laboratory training of these investigators makes them speak with authority. They have reviewed the physiology and chemistry of joint structures, the classification of arthritis, tuberculosis of the bones and joints, and pyogenic infections of joints, as well as the chronic arthritides. The material on which they base their conclusions is largely fresh material obtained from operative cases of both chronic and acute joint disturbances. Since the original monograph of Nichols and Richardson, no book has appeared which will be so valuable to the student of bone and joint pathology. One cannot help commenting on the tribute which indirectly the book pays to the original pathological work on chronic arthritis by Dr. E. H. Nichols and Dr. F. L. Richardson, which appeared over twenty years ago. The work of Allison and Ghormley, carried out on a larger amount of fresh operative material by the most modern methods of gross pathological and microscopic study, has confirmed in almost every particular the conclusions reached by Nichols and Richardson. This confirmation was greatly needed and if the study had done nothing else, it would have been entirely worth the making. The book is published with great elaborateness as to microphotographs, colored photographs of gross specimens, x-rays, etc. The wealth of case histories makes the text graphic and interesting.

Injuries and Sport. A General Guide for the Practitioner. By C. B. HEALD. Humphrey Milford, Oxford University Press, 1931. Price $8.00.

Heald's work on sports injuries is an interesting and original volume. It has been inspired by a recognition of the high incidence of major and minor injuries in sports, the obscure nature of many of the lesions and the inadequate information about them contained in the sources ordinarily consulted by the practitioner. The book is small in spite of its 543 pages, and is well illustrated with 380 cuts, among them many excellent action photographs of athletes participating in different sports to show the mechanism of certain injuries and others illustrating diagnostic procedures and methods of treatment. The material is arranged in two parts; Part One dealing with general considerations such as development and repair, diagnosis of an injury, first aid, principles of splinting, electro-therapeutics, physio-therapeutics, and complications, while Part Two under regional headings takes up the accidental lesions of the bones, joints and soft structures in detail, and considers them from the standpoint of causation, diagnosis, and treatment. For quick reference the author has utilized the excellent device of printing two diagrams of the human skeleton on the inside covers, one devoted to fractures and dislocations, and the other to soft tissue injuries, and each supplied with references to the page numbers of the text corresponding to the various injuries and anatomic regions. The book contains three appendices, the first a table of sports grouped according to their convenience and value to the busy se[illegible]ntary worker who desires to maintain general

fitness and their special properties of reconditioning the body after injury. Comments on each sport are made under the headings value and drawbacks. Appendix II occupies 30 pages, and is a résumé in tabular form extending across the double page of the material that has been set forth at length in Part Two. Appendix III is a brief list of the addresses and telephone numbers of the British Red Cross Blood Transfusion Service in London and other cities of England.

The book is organized in a very practical manner, and undoubtedly fills a distinct gap among the preëxisting reference volumes and textbooks. It is evident that the author has taken great pains in gathering his material and has approached his task with a fresh and original viewpoint. Every reader will be intrigued by the inclusion in the contents of such subjects as Bowler's arm, Golfer's shoulder, Tennis elbow, Boxing thumb, Wicketkeeper's finger, Baseball finger, Games back, Rider's knee, and Tennis leg, even though on further reading he finds only an old friend under a new name. The chapters on development and repair are particularly to be commended. The author has wisely refrained from any consideration of operative treatment beyond mentioning the conditions in which it may be indicated and in that case advising consultation with a surgeon.

While much that is good may be said of the book, on the other hand, certain criticisms appear warranted. No bibliography is given beyond a brief acknowledgment in the beginning of seven sources from which the author has obtained aid. Many of the subjects are of a controversial nature, and a complete list of references ought to be provided for the benefit of the student who would like to delve farther. In the reviewer's opinion it is a mistake to attempt to include the treatment of fractures among the subjects covered. In view of the scope of the work this has to be handled in a superficial manner, and much of the space given to this subject might with greater benefit be devoted to the amplification of some of the less stereotyped material. The question may also be raised of the advisability of the plan of separating diagnosis and treatment of the different subjects which makes it necessary in some instances to turn to three different parts of a chapter to obtain complete information on a certain subject. Turning to more specific matters, it is likely that the American physician will feel that the author has overemphasized the value of electrical treatment, but this criticism will be founded upon scepticism rather than experience, and it is probably true that we have much to learn about this subject. The reviewer notes the omission of any reference to rupture of the supraspinatus, biceps, and extensor longus pollicis tendons, lesions of considerable importance and of not rare occurrence. The author falls into a common error when speaking of certain lesions of the subdeltoid bursa in stating that it may be advisable to excise the bursa when, as a matter of fact, all that is ever done is to evacuate or remove calcareous deposits in the floor of the bursa. No mention is made of the frequent necessity of operative repair in rupture of the quadriceps tendon. However, it is rare to find a book that on its first printing does not contain some errors and these will undoubtedly be remedied in the second edition. It is not the reviewer's intention to be over-critical of a book whose merit, when viewed as a whole, far outweighs its faults.

The Modern Therapeutics of Internal Diseases. An Introduction to Medical Practice. By A. P. Cawadias, O.B.E., M.D. (Durh. and Paris), M.R.C.P. (London). Formerly Chief of the Therapeutic Clinic of the University of Paris, etc. New York. William Wood and Company. 1931. 147 pages. Price $3.75.

This book attracts interest as an attempt to portray the broadest possible outlook upon the practice of medicine. Unfortunately, however, the author's conception becomes involved in complexity as it is elaborated, and the somewhat abstruse and philosophic manner of presentation renders it difficult to grasp immediately the full meaning. Moreover, if we translate the discourse into simpler terms most of its apparent novelty vanishes and the remaining thoughts, so laboriously evolved, are too general to be illuminating.

The main purpose of the argument is to correct the distorted perspective of which "nineteenth century medicine" is accused and to describe the "synthetic conception of internal medicine", "neo-Hippocratic" or "twentieth century" medicine, which means the coördinated use of all different departments of knowledge to benefit the individual as a whole. An individual is defined as an integrated whole with purposive strivings tending to maintain an equilibrium between internal forces and forces of environment. This equilibrium is health. Disease is a rupture of this equilibrium and is the result of a chain of events which is composed, on analysis, of external etiological factors, constitutional factors, psycho-neuro-endocrine syndromes and organ syndromes. The first phase of treatment is diagnosis of the whole psycho-physical condition, not merely nosographical diagnosis but also diagnostic consideration of all of the factors just named. The second phase of treatment of the individual, in accordance with this diagnosis, is the application of the proper "constellation of therapeutic factors", each with its own "metasyncritic" action. These are classified as psychical, dietetic, chemical, biological, physical and non-internistic (surgery, radiation). No particular measures are mentioned except as illustrations, and the selections for such mention, from anti-staphylococcic vaccine to vaccineurin and other preparations with names of proprietary sound, are not wholly fortunate. Finally there is a somewhat glowing description of the Modern Internist and the art by which he is able to practice medicine according to this "synthetic conception".

We may well accept this reminder that each patient must be dealt with as a special problem; that human understanding and sound clinical judgment are both necessary and that our increasing special knowledge must be used only to increase and never to lessen the efficiency of their application. Nevertheless, it seems improbable that the clinical vision of any reader will be much clarified by this rather ponderous discussion.

Diseases of the Skin. By RICHARD L. SUTTON, M.D., Sc.D., LL.D., F.R.S. (Edin.) With 1290 illustrations and 11 colored plates. 1352 pages. Eighth Edition. The C. V. Mosby Company, St. Louis. Price $12.00.

If proof is needed of the popularity of Sutton's Diseases of the Skin it is to be found in the fact that the publishers have just put out an eighth edition. Their interest in a book is in its sale. Without popularity there is no sale and the publisher does not venture beyond the first edition. It is evident that Sutton's book is popular and therefore sells.

Much has been done in the present edition to improve the book. It is everywhere evident that Dr. Sutton has conscientiously avoided controversy. Much as debate may intrigue the specialist it bores the average reader. Dr. Sutton has avoided the pitfall very successfully.

More difficult than direct omission is a condensation of facts which omits nothing essential to understanding yet does not run into verbosity or unnecessary detail. To accomplish this task successfully requires in the highest degree intimate knowledge of the subject, good judgment, which rests on intimate knowledge, and the ability to express paragraphs, and, perhaps, pages in a few sentences. It is a difficult job which is really well done. To one reading Dr. Sutton's new edition the thought and endeavor which has been exerted in this direction is very noticeable. The various diseases are described in sufficient detail to give the reader helpful comprehension but without a waste of words. Facts are given carefully but mere theory is omitted.

Full advantage is taken of the fact that a good photograph is not only much more graphic than words alone, but also enables one to contract the text without destroying intelligibility. Everywhere Dr. Sutton has added photographs to illustrate his text. Acquired from various colleagues these photographs really represent the best of the collections of many men and are therefore of unusual worth. Moreover, they are so well reproduced in the book that they give details which would otherwise be missing.

In spite of all Dr. Sutton's care to eliminate from his text every unnecessary word the book is nevertheless a large one, requiring more than thirteen hundred pages. This is because he has included every known skin disease between its covers. Here again he has shown judgment. Diseases which are of academic importance receive but little description. Diseases of greater importance receive attention according to their importance.

Naturally such a book as this will not have the same value for all readers. Dr. A. who has had but little training in the diseases of the skin would like more detail than Dr. B. who specializes in that branch. Dr. C. who has had some training but does not specialize in the skin wants facts with which to reorient himself but not great detail. Dr. Sutton's book will serve all three classes. All will find it an aid in practice.

Intravenous Therapy. By K. V. THAKKAR. Butterworth & Co., Calcutta, India, 1931. 194 pages. Ill. Price, 5 rupees.

This is a comprehensive little volume devoted to the technique of intravenous therapy in various conditions. Among the most important of the chapters are those on "Technique and Choice of Method", "Toxic Effects of Novarsenobenzol", "Blood Transfusion" and two chapters on "Intravenous Therapeutics." In the last two chapters the author describes all the drug preparations which are in common use for intravenous medication and under each drug its minimum and maximum dose, necessary amount and nature of the best diluent, the various affections in which it is useful, contraindications, proper manner of using the drug and, finally, special precautions, if any. Of particular interest to occidental medicine are references to the use of hypertonic salt solution in cholera. One of the chief points of interest is the great number of drugs which are used almost daily in treatment in India.

A Non-Surgical Consideration of Prostatic Enlargement. By EDWIN W. HIRSCH, M.D. Published by Bruce Publishing Company, Minneapolis and St. Paul. 1931. 79 pages. Price $2.00.

Any attempt to evaluate current ideas as to the pathology underlying a given surgical procedure, and to review critically the arguments for and against such an operation, must be regarded as worth while. Yet when advancing the thesis that practically all recognized authorities are wrong, an author should be especially careful to present sound proof of the correctness of his criticisms. In his monograph on Prostatic Enlargement, in which he contends that prostatic enlargement is due to retention of infected secretions, and that a large proportion of prostatectomies would be rendered unnecessary by early treatment of this condition by means of massage, Hirsch does not prove his point. He quotes no cases; he simply states that in "numberless" cases, he has been able, by this measure, to reduce the amount of residuum and to make operation unnecessary.

Hirsch disagrees with Lowsley as to the existence of a middle lobe in fetal life and in early childhood; he says he has proved this in the dissecting room, but gives no more evidence to support his belief. He also denies the presence of an inter-

nal sphincter, but in speaking of a case in which a neurological lesion was present, he says that if the punch operation had been done (i.e., the internal sphincter divided) the patient would have been made incontinent. He does not believe that such entity as a "median bar" exists, and considers the punch operation and all intraurethral prostatic operations as unwarranted and dangerous.

He has evidently reviewed the literature on prostatic enlargement fairly extensively, and gives an excellent historical summary of the leading events in the development of prostatic surgery. No doubt there is some truth in his statement that certain cases of prostatic obstruction can be benefited by massage and bladder lavage; no urologist worthy of the name would deny that. In the main, however, his point of view seems to us to be unsound, and without pathologic or clinical support.

A Description of the Planes of Fascia of the Human Body. By B. B. GALLAUDET. New York. Columbia University Press. 1931. Price $2.00.

This monograph, by one entitled to speak with authority, presents a brief description of the fascial planes of the human body with special reference to the fascia of the abdomen, pelvis and perineum. It is based on dissections made by the author during a period of seventeen years. The object of the work is to emphasize the law of continuity of fascial planes throughout the body, a principle already thoroughly established for the head, neck, thorax and extremities but hitherto inadequately described in standard English and American textbooks with respect to the abdomen, pelvis and perineum. These inadequacies Dr. Gallaudet corrects in his description, which is at first general, then systemic, then original. His work is admirably illustrated by six full-page figures, and constitutes a genuine contribution to the understanding of fascial anatomy.

Gonorrhoea in the Male and Female. By PERCY S. PELOUZE, M.D. Second Edition, Revised. 440 pages. Philadelphia and London. W. B. Saunders Company, 1931. Price $5.50.

Pelouze's book on Gonorrhoea is characterized by a ruthless sweeping away of superstitions connected with the management of this disease, and by the development of a foundation for treatment based upon known facts. He admittedly leaves outside his consideration many methods which are more or less in vogue, and confines his discussion to the method which he has found most valuable. The essentials of this method are, first and foremost, gentleness and avoidance of trauma. He believes that gonorrhoea is a self-limited disease, at least in the male; that the natural resistance of the body should be aided and not hindered by treatment; and that cure should not be attempted by a tour de force. Specifically, he treats acute gonorrhoea in the male by daily urethral irrigations with weak potassium permanganate, followed by instillations of silver nucleinate.

Gonorrhoea in the female should also be treated with extreme gentleness during the acute and subacute stages, although in the chronic stage the foci of residual infection, such as Skene's ducts and the endocervical glands, should be radically sterilized or destroyed.

The author gives summaries of some forty-eight case histories which illustrate the bad results of ill-advised treatment as well as the good results of the proper measures.

The book is a valuable one because of its honesty, its clearness and its practical point of view. Pelouze admits our ignorance on many important points, and indicates directions along which progress may be made in the future.

The reviewer finds himself fully in accord with the author's views, and recommends the book unreservedly.

Simplified Diabetic Management. By J. T. BEARDWOOD, JR., M.D., and H. T. KELLY, M.D. J. B. Lippincott Company, 1931. 191 pages. Price $1.50.

This manual intended for both patient and physician in addition to the usual general instruction in the nature, diagnosis and treatment of diabetes offers another mathematical chart from which the carbohydrate, protein, and fat components of the diabetic diet may be computed. The individual foods are listed under three groups. In group A are included various vegetables and fruits in such amounts as to yield in each unit five grams carbohydrate and one gram protein. In group B are included foods such as meat, fish, eggs, chicken and cheese in such amounts as to yield five grams protein and ten grams fat in each unit. In group C are listed combinations of meat, vegetables and fruit such that each will yield five grams carbohydrate, six grams protein and ten grams fat. From the master diet chart the physician is able quickly to order for the patient a diet consisting of such a number of group A units and such a number of group B units as will equal the day's dietary prescription.

The use of insulin, the treatment of insulin reactions, of diabetic coma and other complications are briefly discussed. Nearly half the book is given over to the use of the authors' unit method, its adaptation in various conditions, food values and food recipes. Useful specimen diets for nineteen complications of diabetes, such as tuberculosis, nephrosis, hyperchlorhydria, peptic ulcer, colitis and cardiac decompensation are given.

The Causation of Chronic Gastro-Duodenal Ulcers: A New Theory. By J.-JACQUES SPIRA. Humphrey Milford, Oxford University Press, London, 1931. 8 + 78 pages. Price $2.50.

In this little volume the author brings forth a new theory of the causation of gastro-duodenal ulcers which seems not to have been suggested heretofore by other writers on the subject. In brief his theory is that, as the presence of fat in the stomach regularly causes regurgitation of the duodenal

contents, including bile, into the stomach, and bile salts, when mixed with the acid gastric contents, damage the mucous membrane of the stomach, ulceration is primarily due to an excess of fat in the diet and that this seems to explain the familial incidence of peptic ulcer. The author deduces his theory from the previous work of others on the etiology, pathology, the causes of hypochlorhydria, etc., but does not bring forth definite experimental proof himself, nor does he cite a sufficient number of cases to make one feel that the theory is proved. The hypothesis is an interesting one and should be investigated by others working in this field.

Bedside Interpretation of Laboratory Findings. By MICHAEL G. WOHL, M.D. St. Louis: The C. V. Mosby Co., 1931. 321 pages; 133 figures and illustrations. Price $6.00.

The author states that "the purpose of this volume is to deal with the middle ground between the fields of activity of the clinical pathologist and of the general practitioner. . . . It aims to place a proper evaluation upon laboratory reports as applied at the bedside. It aims to omit such tests as are excessively complicated or whose merits are still to be proved, and to emphasize the simpler useful ones that can be performed in his own office by an intelligent practitioner. It aims to acquaint the general practitioner with the recent advances in scientific medicine. It aims to emphasize the fact that a laboratory report is only an adjunct to diagnosis, and not the diagnosis itself."

This little book is very well written, profusely illustrated, and covers all of the laboratory tests that are usually done in the larger hospitals. The photomicrographs, on the whole, are unusually well produced. The reproductions of drawings are not entirely satisfactory and the criticism might be offered that the illustrations borrowed from other works are blurred and poor in quality. These, however, are relatively few in number. Occasionally some of the facts stated by the author might be disputed by other clinical pathologists, but on the whole the presentation of the subject matter and the placing of the illustrations make the book a very handy one for reference.

The Nurse's Medical Lexicon. By THOMAS LATHROP STEDMAN, A.M., M.D. New York: William Wood & Co. 1931. Price $2.00.

This brief lexicon is intended primarily for the use of graduate and student nurses, of pre-medical and dental students and of the general public. It is designed to include all terms, whose definitions are likely to be wanted at some time by any of those for whom it is designed. Many cross references have been introduced to avoid repeated definitions of synonyms. An appendix contains information on certain subjects which could not be conveniently treated in the main body of the work, such as weights and measures, comparative temperature scales, poisons and antidotes, and an incubation time-table of the infective diseases. The book is well printed on good paper and should prove a very useful addition to the nurse's library.

How's Your Blood Pressure? By CLARENCE L. ANDREWS, M.D. The Macmillan Company. New York. 1931. Pp. 225. Price $2.50.

There is such a plethora of popular books on medicine that any new one must not only be accurate but extraordinarily readable to justify its appearance. On the whole this book of Dr. Andrews is readable and authoritative. As is all too frequently the case, however, assumptions are made that are not as yet entirely justifiable and there is an occasional almost ludicrous misstatement. Thus on page twenty-nine we read, "At the instant pure blood is passing out of your heart through the artery valves to all portions of your body, during contraction, *impure blood is returning to the right and left upper chambers, through the large veins from your body tissues.*" On page one hundred and eight we read "Your circulatory system, about which this book chiefly speaks, is never attacked primarily, but almost invariably secondary to some focus, pus pocket, or infection elsewhere in your body."

In addition, there are certain infelicities of expression. "Your" is repeated *ad nauseam.* Thus on page thirty-six we find "your" nineteen times; on page thirty-seven, fifteen times; on page forty, twenty-three times; and these pages were picked at random.

However, numerous helpful suggestions are given and several useful diets are detailed.

A Review of Health Conditions and Needs in Barnstable County, Massachusetts.

A notable effort toward the information of the public, local and general, with reference to health conditions in Barnstable County, has been the publication of a brochure under the above title printed for the General Federation of Women's Clubs by the Metropolitan Life Insurance Company. It is a coöperative study by the twelve women's clubs of Barnstable County, with the help of the local boards of health and the visiting nursing associations, with the advice and aid of the county health officer. It is a splendid example of that coöperation, the pull-together spirit, which is unfortunately absent in many movements having in view the benefit of the public.

The report is not so long as to be wearisome (about twenty pages) and it is interesting and instructive; a strong feature is that it is written in language comprehensible by the people. The Cape has remained rural till this day, and has sought to deal adequately with health problems, almost from the time of its settlement in 1636. It was the first community in Massachusetts to establish a large health unit, a form of administrative coöperation that is growing in the state and in the country. Some ten

years ago there was formed in the county the Cape Cod Health Bureau Association, a voluntary organization which laid the foundation of the present unit, resulting in the enactment in 1927 of enabling legislation. This assured the union in health administration of all the towns of the Cape, and the U. S. Public Health Service furnishes a resident agent, who is county health officer.

A most important factor to public health is here emphasized in very definite plans for the health education of the general public. The report closes with some pertinent suggestions for lines of public thought and action toward effective public health practices. The report is endorsed by the county health officer.

A Text-Book of General Bacteriology. Tenth Edition. By EDWIN O. JORDAN, PH.D. W. B. Saunders Company, Philadelphia and London, 1931. $6.00.

The tenth edition of this well-known textbook is a decided improvement over the previous issue. The addition of new material has necessitated a general revision and resetting of the book, and consequently an enlargement to the extent of thirty-five pages.

Minor changes have been made throughout, but the most notable differences are those relating to sections dealing with staining technic, nomenclature, classification, variation, filterable viruses, the bacteriophage, et cetera. More importance has been given to the bacteriophage question and to the Brucella group by devoting separate chapters to them. The treatment of the Neisserian group has been condensed and revised. The chapters on the colon-typhoid group have been largely rewritten. In general, the latest rules of toxonomy have been observed, although, according to the author, this has been done with some reluctance. Other revisions have been made in the sections concerning fungus diseases, parasitic protozoa, and bacteriology in the arts and industries. Brief discussions of psittacosis and Rocky Mountain spotted fever are included in the text.

The author has greatly enhanced the value of this book for those interested in medical bacteriology and it is a pleasure to give this work a hearty recommendation.

The Infant Welfare Movement in the Eighteenth Century. By ERNEST CAULFIELD, M.S., M.D. Paul B. Hoeber, Inc., New York, 1931. Price $2.00.

An interest in the history of medicine continues to develop, and particularly pediatric history seems to be coming into its own. In recent years the first great history of Pediatrics—Pediatrics of the Past—appeared from the hand of John Ruhräh, to be closely followed by a similar work by George Frederic Still, and it is Still who has written the foreword to Caulfield's story of the infant welfare movement in the eighteenth century.

It is a far cry from the opening of Coram's Foundling Hospital in London in 1741 to the White House Conference in 1930, but the founding of that first hospital by the late shipbuilder of Taunton, Mass., started a series of events directed toward the welfare of children which is still gaining impetus. The calloused attitude of the early eighteenth century toward infant welfare can scarcely be conceived. The dropping of infants on doorsteps and in the fields first woke the easily aroused sympathies of Captain Thomas Coram, and from this time on through the century comes a succession of names which are linked with an increasing respect for the rights of infancy. William Cadogan injected a modern note with his essay on nursing and the management of children; Jonas Hanway, a layman, ameliorated the conditions of the infant parish poor; George Armstrong, one of the first of the English physicians to devote his time entirely to the care of children, opened the first dispensary for them.

The story is well told in this little book by a Hartford, Connecticut, physician.

BOOKS RECEIVED FOR REVIEW

Modern Medical Treatment by E. Bellingham-Smith and Anthony Feiling. Two Volumes. Published by William Wood and Company. 705 Pages. Price (for two volumes) $12.

Handbook of Skin Diseases by Frederick Gardiner. Third Edition. Published by William Wood and Company. 283 Pages. Price $3.50.

Dépistage de la Syphilis en Pratique Obstétricale et Prophylaxie de la Syphilis Héréditaire by P. Rudaux and H. Montlaur. Published by Masson et Cie. 146 Pages. Price 20 fr.

Traité de Physiologie Normale et Pathologique. Published under the direction of G.-H. Roger and Léon Binet. Book II, Alimentation et Digestion by various authors. Published by Masson et Cie. 566 Pages. Price 80 fr.

Conquering Arthritis by H. M. Margolis. Published by The Macmillan Company. 192 Pages. Price $2.00.

Allergy and Applied Immunology by Warren T. Vaughan. Published by The C. V. Mosby Company. 359 Pages. Price $4.50.

Living the Liver Diet by Elmer A. Miner. Published by The C. V. Mosby Company. 106 Pages. Price $1.50.

Diabetes by Elliott P. Joslin. Harvard Health Talks, 18. Published by Harvard University Press. 70 Pages. Price $1.00.

The Human Voice, Its Care and Development by Leon Felderman. Published by Henry Holt and Company. 301 Pages. Price $2.50.

Osler and Other Papers by William Sydney Thayer. Published by The Johns Hopkins Press. 386 Pages. Price $3.50.

The Surgical Clinics of North America. December, 1931, Volume 11, Number 6. Philadelphia Number. Published by W. B. Saunders Company. 309 Pages.

A Non-Surgical Consideration of Prostatic Enlargement by Edwin W. Hirsch. Published by the Bruce Publishing Company. 79 Pages. Price $2.00.